AMERICAN BEE JOURNAL

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Outyard of Walter T. Kelly, Houma, Louisiana

"The Flowers that Bloom in the Spring Tra La---"

And February is Spring in Louisiana

By M. G. Dadant

AS my wife and I found as we slipped, slid, and skidded the two miles from home to the station early in February, that we might board the train for St. Louis, and eventually for the "sunny South."

We were bound for the Southern Conference meeting at Baton Rouge, the Mardi Gras, a few visits to beekeepers, and a little sightseeing. The excuse for the trip was business, but we folks like to make our business a pleasure, so it was an all pleasure trip.

A peep out of the sleeper next morning influenced us to ban our rubbers, our red underwear and our non-slip spikes, and a second more-observing look disclosed we were in the land of that parasitic plant which at Christmas times is strung at strategic points to allow the young swain to greet members of the feminine sex with a resounding smack—and no apologies needed. Mistletoe in green bunches, like squirrels' nests, clustered in the tops of the trees.

A few hours and Spanish moss appeared, festooned from the live oaks. We were in Louisiana, entering the old Spanish-French-Creole city, New Orleans. Again we were on the Mississippi, but now several feet below its level, instead of on a bluff as at home.

Our bus journey to Baton Rouge was along the Father of Waters, but everywhere separated from it by those gigantic, unending levees, here and there taking on newer and higher form, where the new Government projects to avoid another catastrophe such as occurred in May, 1927, were being carried out with drag-line, shovel and man power. And then Baton Rouge and the Conference.

The new Southern Bee Culture Field Station is comfortably located in rooms in one of the buildings of the Louisiana State University, and is in charge of Warren Whitcomb, Jr., formerly of Wisconsin, a pleasant and capable young man, who has immediately acclimatized himself to his surroundings. He is assisted, and ably so, by Everett Oertel, thoughtful and studious, who from appearances should make just the type of man needed for an investigator. Co-operation is the keynote. These two men are cooperators, and they have not been outdone by the allied departments of the university, by the state entomologist's office, and by the beekeepers individually and collectively, who are leaving no stone unturned that the station may have every facility in determining southern conditions and aiding them.

Their first projects of package bee and queen standards and Dixie honey plant possibilities are already on the way and will be associated and followed by many more as the time goes on.

But the meetings are on. We have already, in a previous issue, given some of the high lights of the meeting, the recommendations for standards in packages, nuclei and queens; request for investigation of the Argentine ant, etc. Among the talks, probably those of Father Cooney on Louisiana beekeeping, of J. J. Wilder on his method of packing honey in square jars and cans, of H. C. Short on package bees, and of Dr. Gates on genetics, were the most outstanding. Both the Kellogg and Postum people had representatives at the meeting. Joor Anderson and Dalton kept things moving with no apparent lag.

Yet, the high points of any meeting, I feel, are the associations with your fellow beekeepers. One gets to

understand the other fellow's viewpoint, the other man's problems, where it might not be understood by years of reading and correspondence.

A few of us, while at Baton Rouge, took occasion to slip away for a little while to get a first-hand, close view of the swamp, which is the real source of most of the southern honies. The early trees were in bloom and the bees were busy. We amused ourselves by catching numbers of little chameleons, which lurked under the bark of dead trees everywhere. Mr. Hambleton even got a young snake into his confidence and carried it home. Just what it had to do with the operations of the bee culture laboratory we never found out.

The meetings were a success—from accomplishments, from the complete harmony everywhere; and on the part of outside guests, from the wonderful hospitality given them by the good folks of Baton Rouge, ending with the big banquet with Hon. Harry D. Wilson, their efficient commissioner of agriculture, in charge.

But on to New Orleans, by auto this time, through the thoughtfulness of State Entomologist Anderson and his charming wife, who drove us down. A three-hour trip, away from the river this time, through the strawberry section, with a stop at Hammond, from which many cars of berries are shipped and where they have a sure enough log cabin, auction market for berries in cars, patronized alike by the northern commission buyer and the representatives of the southern growers' associations. Finally we reached New Orleans by way of the six-mile long concrete bridge across Lake Pontchartrain, and found Mardi Gras in progress.

Mardi Gras is a festive time. Beginning with lesser social events after the beginning of the year, the intensity of the gayness increases, ending at Lent with parades, festivals, balls, huge pageants with enormous floats, from which are thrown favors to the maskers and guests. I think one of the high lights for my wife was that I succeeded in catching one of these favors—a necklace of beads. Surely they are more treasured than if they had come from Tiffany's—or from the royal jewels of the czars.

Yet, to me, the greatest attraction of New Orleans is its historic setting; and New Orleans thinks so too, since they have taken pains to preserve the old Spanish and French part of the city intact. Even the streets in that part of town retain the old names, changing designations as the crossing is made from old to new as you cross Market street.

Uncle Sam's Bee Men at Baton Rouge

Dr. Warren Whitcomb, Jr. (above) and E. Oertel, assistant, in charge of the Southern States Bee Culture Field Station, Baton Rouge.

Visit the Cabildo, old seat of government of the Spaniards. It was here the reins of government were turned over from Spain to France. Here also the Louisiana Purchase was consummated and that vast territory became a part of our own United States.

See St. Louis Cathedral, second oldest in this country; Jackson Park; the French Quarter; the old cemeteries, all built above ground to avoid water; the various parks; and the duelling oaks in one of them, under which Spanish grandees and French royalists were wont to settle their differences, as they called it, "honorably."

And your sightseeing will not be complete without a visit to the old site of the battle of New Orleans, where our own General Jackson was victorious over the celebrated Pankenham of the British in a battle fought after peace had been declared. What a difference! It took days for couriers to carry the news then. Now by our radios we hear the inaugural at Washington, its celebration at Palo Alto, California, with not a second's loss of time.

But listen, don't tell. They still have bars in New Orleans. Oh, no. Not real liquor bars; I wasn't looking for them. But bars that look a good deal like the old pre-Volstead times. This time they are oyster bars. We are in the oyster country here. Four of us went in, stuck our feet up on the bar and proceeded to eat our fill of the fresh shucked oysters. My wife doesn't like them. But she tried to get into the spirit of the thing and took one. I turned round a moment later to find her with her mouth full and mumbling, "What'll I do with it?"

But back to the bees, to Westwego, just across the river, where the Stevensons (and both Mr. and Mrs. are expert) rear queens, ship packages and produce honey. Again I was struck here, as I had been two years ago in Avoyelles parish, with the extreme gentleness of the bees, and their uniform yellow color. We opened hives without smoke, examined frames and returned them. Brood in all stages, and the queens laying freely.

At one of the Stevenson outyards I was privileged to see the Argentine ants in their native home. In most of Louisiana the colonies have to be put on benches, and extreme precaution is taken to have insulating pans of oil or grease to protect from ants. Mr. Stevenson told me that a single stick or weed falling against the hive would be sufficient passageway to the ants, and that it took only twenty-four hours to clean out the colony. The bees many times abscond in the night in an effort to escape these ruthless enemies. Mr. Stevenson has been able to keep these pests in control somewhat by feeding poison powder called "Scoot." Since these pests are common through most of the South, certainly work is needed to find the best exterminators or the best control.

Nearly everyone has seafoods as a steady diet in this section. I had an opportunity to "shuck" my own raw oysters at the Stevensons. The oysters in the shell are packed in bushel gunny sacks and are sold for $1.25 per sack of a hundred or more. The oyster gormand would be happy here.

Our next trip took us farther south, nearer the Gulf, at Houma, where Walter T. Kelly runs his queen-rearing yard, his outyards and his bee supply factory. The effect of the Gulf winds are here very apparent in the changeableness of the weather as well as in the modification of the temperature. Maples were out of bloom, willows were

starting, roses and Japanese magnolias were at their height.

The land is higher here, with little danger of floods, though at Gibson, ten miles away, where we visited Mr. Thibodeaux, floods had ruined many of his colonies in 1927. Their only danger here, they say, is an occasional summer windstorm, which comes with a whirl and a rush, the wind blows at a terrific velocity, and the storm subsides as quickly as it came, after a stay of two or three hours. But the wind often does considerable damage to bees.

Again here we observed the bright color of the bees, as we did the same afternoon when visiting the home apiary of Father Coulombe at Montegut, twenty miles farther south, and the nearest to the Gulf itself that we got.

Reluctantly, we parted with our good hosts the Kellys, because it meant that our southern stay was over, and a more hospitable and pleasant two weeks it would be hard to picture.

But the Southern Conference officials are wily. They want to give you a taste first. Then they proceed to set next year's meeting again, just before Mardi Gras. A lure to come back.

And why not? We go north in summer to vacation in the cool. Why not south in the winter for the warmth? But, perhaps other members of the staff will claim the journey next time.

Mr. and Mrs. Stevenson in one of their outapiaries. Notice the hives on stilts to avoid the ants.

Chilling Eggs Produce Bees of Mixed Sex

Dr. G. A. Rosch has succeeded in producing gynandromorph bees (mixed sex) experimentally, by cooling a frame of eggs (not more than three and one-half hours old) in a refrigerator for two or three hours. He finds that the eggs of different queens require different temperatures to cause them to produce a percentage of gynandromorphs; but that, once the right temperature is found, the result can be obtained with certainty.

He is continuing the work, and we may expect with confidence that, before long, he will be able to tell us the cause of these queer freaks. It already appears that only eggs of a certain age can be affected by cold in this way. Though not of immediate practical importance, the matter is of some interest, if only because it will probably provide one more proof of the origin of the drone from an unfertilized egg.—Verh. Deutsch. Zool. Ges.

A. D. B.

Tincture of Apis of Doubtful Value

In the December issue of the American Bee Journal, tincture of Apis is recommended for bee sting. I fear the person so recommending uses the imagination as to good results.

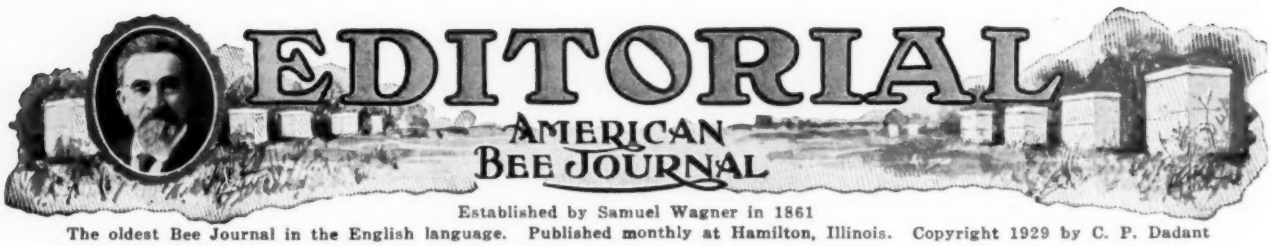
According to the formula of Lloyd Brothers, of Cincinnati, one drop of Tr. Apis Mellifera represents the active principle of one grain of live bee. This is made, according to their label, by agitating the bees till the stingers protrude and venom is exposed. Then the bees are washed.

Now, knowing the amount of venom to the bee and condition of the extracting, calculate for yourself how much will be obtained in each drop of the mother tincture and if this amount will be constant in any two samples of the extract.

Now, again diluting this inconstant, non-standardized tincture to the extent of ten drops to a glass—that is, eight ounces of water—and again using a teaspoonful of this dilution to a dose and you will get how much bee venom is in a dose. The spirit is there anyway.

Dr. W. Ray Jones.

Another Stevenson apiary under the Louisiana, moss-bedecked live oaks.



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International Meeting at Berlin, 1929

We have been requested to place the following announcement in as conspicuous a place as possible, as the Apis Club is proving to be a very interesting international beekeepers' association. Without doubt international debates will prove of great benefit to beekeeping.—Editor.

In accordance with often expressed wishes, the German capital has been chosen for the international meeting of the Apis Club, 1929. The meeting will take place from August 9 to August 12, 1929. The time of the meeting has been thus fixed that the preceding meeting of German-speaking beekeepers in the first days of August at Graz may be visited, and, furthermore, after the Berlin meeting of the Apis Club, the Slavic Apiculture Congress (beginning August 15 at Posen), too.

The Congress in Switzerland last year has evidenced that the Apis Club—to which practical and scientific men of nearly all nations belong—possesses great significance for the cooperation of all persons interested in the concerns of apiarian knowledge. During the meeting at Berlin a number of valuable lectures will be held, and opportunity will be proffered of making the acquaintance of many eminent apiarists The position of the Congress town lets us hope to be able to get into touch with representatives of the northern countries as well as with those of Russia, of late so active in apiarian questions.

Every friend of apiculture is heartily invited. We will endeavor to reduce the costs of the stay in Berlin. Further details and the program of the meeting will be published at a later date in this journal.

Professor Dr. L. Armbruster,
President of the Apis Club,
Berlin-Dahlem, Lentheallee 86,
Institute for Apiculture.

Bees Entering the Wrong Hive

We have often warned our beekeepers against possible losses of bees by their entering the wrong hive. In our October number, page 493, we commented upon the too great regularity of the apiary shown on the cover page of our September number. We have lately noticed an experiment mentioned in "La France Apicole" for March, page 51, by J. B. Weck, in which the writer of this article describes the marking of 2,000 bees from one colony, in an apiary in the Biological Institute of Berlin-Dahlem, by Mr. Otto.

In many apiaries of the Old World, and in this one in particular, the colonies are placed in close rows, in two tiers. In this occasion the marked bees were in a colony in the center of the group, and of yellow color. Six experimenters placed themselves near other hives also colored yellow, and while 104 marked bees were seen flying into the proper hive, the other hives of the same color were seen to receive 23, 30, 20, 23, and 5, respectively, of those marked bees. This was in the space of a quarter hour, so that they could be assured that the same bee was not counted twice.

There is quite a lengthy article on this subject, but what we mention is sufficient to demonstrate that many bees are confused when colonies are located too closely together. It is therefore quite important to have as much variation as possible in the color, the location and the general appearance of hives containing bees.

In a good honey season it matters but little whether bees go into the wrong hive. If they bring honey and pollen they are sure to be welcome, but they may also bring disease. Besides, if a young queen makes a similar mistake the fate of the hive is almost surely doomed.

Replacing Winter Losses

Reports continue to come to this office of heavy losses during the recent winter months. We feel that the advice in the last month's Journal, to fill all empty hives with live bees from the South, is still good. May is not too late in most northern regions to buy packages and get good returns. Where the beekeeper has all equipment, including drawn combs, he can ill afford to allow it to stand idle for lack of bees. Not only does he lose the returns from failure to harvest a honey crop, but unused equipment deteriorates very rapidly, hives go to pieces, moths destroy combs, or they become mouldy and are soon valueless.

By filling the empty hives with package bees everybody profits. The southern shipper finds a market for his product and the northern buyer harvests a crop which he would otherwise lose. Probably there has not been a time within recent years when the southern shipper was so well equipped to fill orders on short notice as now. Many shippers have expanded their operations by adding more bees and better equipment as well as better methods of handling. The express companies have learned better how to handle bees in transit so that a much larger percent of the bees arrive at the destination in good condition than was formerly the case.

In order to profit from the present season's crop, orders should be placed quickly so as to give the bees all possible time to establish themselves and rear brood in advance of the honeyflow. F. C. P.

Bees In the Orchard

The American Bee Journal recently published a booklet of twenty-four pages, fully illustrated, dealing with the importance of honeybees in the pollination of the blossoms of fruit trees. This publication, which is written by H. D. Hootman, secretary of the Michigan Horticultural Society, and G. H. Cale, of the Bee Journal staff, has attracted wide interest and a large number of requests are coming in for copies.

It is the purpose of the booklet to show the relationship of the bees to fruits, the varieties of fruits which are suitable for cross pollination, and the management of the bees in the orchard in order to secure best results.

Fortunately the value of the bees to the fruit grower is now very generally recognized. Because of this fact there is less complaint of the loss of bees from the spraying of fruit trees than was formerly the case. Now that the fruit grower realizes that the presence of the bees in the orchard means dollars in his own pocket, he is much more careful to avoid spraying when the bees are likely to be destroyed. The beekeeper profits also from the opportunity to rent bees for cash to the fruit grower who wishes to make use of them during the period when the orchards are in bloom.

No longer is it a question of convincing the fruit grower that the bees are of value to him, but it is a

question as to how many should be present, how they shall be managed, and when spraying can be done without injury.

Any beekeeper wishing to secure copies of this booklet for distribution among the fruit growers of his community can secure as many copies as he desires at the cost of printing, which is five cents each.

Strong Colonies for the Harvest

The big battallions win the battles. This was repeated over and over, by Dzierzon, Langstroth, the elder Dadant and many others. But the man who put the matter in the most concise form was our contemporary, George Demuth, when he wrote: You must rear your bees **for** the crop and not **upon** the crop.

Most of our readers know this. Yet, many do not realize as vividly as they should the necessity of rearing bees ahead of the needs of the season. Charles Dadant explained this in an article written in December, 1868, and published in the fourth volume of the American Bee Journal, on page 147 of the February, 1869, issue. He showed there how he had reared bees to full strength, for the crop, while his neighbors, relying on the possibilities of the season, had allowed their bees to live without much increase until the clover was in bloom. The result, as he showed it at the bottom of the page, was a good crop for his bees and a poor season for his neighbors' bees.

What we need to remember is that it takes three weeks to permit a worker bee to emerge from the cell, a fully developed insect, after the egg has been laid in the cell, and that it takes fully another two weeks before that bee is fit to go to the field. Between thirty-five and forty days are needed between the laying of the egg and the full field capacity of worker bees.

Therefore, if our honey season is to last, say from June 10 to July 10, we must have the queen laying her greatest number of eggs not later than May 5, and continuing this until some time in the middle of June. Many of our queens are prolific and appear to realize that their activity is needed early. Every now and then a beekeeper with a weak colony wonders why the queen lays two and even three eggs in a cell. She is prolific, but the colony is not strong; probably it has been weakened by winter losses. So the bees crowd on a small number of combs to keep the brood warm, and the queen must limit herself to those combs, while she realizes that she should fill the entire brood chamber with eggs.

Usually, the colony begins to increase in numbers as soon as the early blossoms cause fresh nectar to be brought in. The bees, coming in with a honey sac full, offer food to the queen whenever they pass by her. The increase of feed causes her eggs to develop and the desire comes, naturally, to lay. But if there is no honey in the field, they hesitate to uncap sealed honey from the winter stores and the amount of laying is less.

Thus, fruit bloom, dandelion bloom and in fact all early bloom induce the increase of population. We thus have seasons in which it is not necessary to urge the increase by feeding. But if the early bloom fails, either by lack of fair weather, unseasonable rains or cold, there is no impetus to the laying and the colony remains at a low ebb.

It is for the beekeeper to look after this. If he does not watch his bees closely during the early days, if he lets them take chances on possible harvest when there is nothing, he has no one but himself to blame when the big harvest comes and finds his colonies weak in numbers. Then, of course, they will proceed with active laying. But it is too late, for they are rearing their harvesters, **upon** the crop and not **for** the crop. The colony becomes powerful at the end of the harvest, when it is too late.

Seasons differ, of course. Some years the big crop lasts long enough for a colony to become strong and still harvest a surplus. But the great difference between a large crop and a small one depends entirely upon the strength of the colony at the opening of the crop.

Charles Dadant used to say that the first blossoms of the white clover always showed themselves about three weeks before its full bloom. I speak here of white clover, because that is the leading crop in our section. But one should become accustomed to the local crop and learn to discover the signs of its coming fullness. Whether it is white clover, or alsike, or sweet clover, raspberries, buckwheat, etc., one should learn to discover the signs of abundance before the crop is on. Then we should go to work and encourage our bees by feeding, if necessary, to secure an abundance of workers. But let us not forget that it requires three weeks from the time the egg is laid and a couple of weeks more for the young workers to be fit for the field.

It is not always necessary to feed the colony. Very often a hive may be quite fairly supplied with honey, sealed honey, when we decide that it should begin to breed heavily. At such times it is only necessary to uncap a little of this surplus in order to induce the bees to feed their queen more heavily and thus secure a greater number of eggs in the cells.

In early spring, warmth is indispensable. That is why such practical workers as our old and experienced friend, Mr. J. E. Crane, leave their colonies packed with their winter covers until the middle of the season. If we uncover our colonies to ascertain their condition during the early spring days, it is well to cover them again until the warm weather has fully come.

Some beekeepers make it a practice to help colonies that have a very prolific queen, when the hive has become weakened by winter. It is good. But there is great danger in doing this of overdoing it, either by taking too much from a strong colony and making it weak in its turn or by overdoing the help to the weak colony and rendering it unable to take care of its brood.

We have found this sort of help beneficial only when the colony furnishing the help could spare a comb of hatching bees without being retarded in its breeding. Such help must be given with a great deal of care and only when the weather is such that the colony that is helped is fully able to care for the additional brood comb. It should not be given to a colony whose queen is at all doubtful as a breeder; neither should it be given too early, when the colony furnishing the help is likely to be weakened by the withdrawal of brood. Better one strong colony than two weak ones.

Irregular seasons, like the present one, with alternatives of warmth and cold, of full bloom and of rain, early in the spring, are the ones in which there is the best possibility of coming to the help of the bees by urging them to breed, when we know that there is a crop coming. If they are ready when the crop comes, they may harvest a surplus, while other people's bees are just trying to get ready for it. This is what Charles Dadant explained in that article of the old American Bee Journal published sixty years ago.

Beekeeping Extension

The educational work in beekeeping has been abandoned in several states. In some others public officials have seriously considered dropping it in order to make a slight saving in public expense. We frequently hear it said that the colleges are training too many beekeepers and that we are producing too much honey as a result of their work. The writer is firmly convinced that the industry has profited as a result of the extension work and that the individual honey producer is in better position because of it. In this day of fierce competition we find the greatest prosperity in the industries which are most fully organized and where the leadership is most aggressive.

Those who are interested will take up beekeeping regardless of the colleges, but in states where there has been a comprehensive program of extension work we find beekeeping conducted on a better basis. There are fewer box-hives, less uncared-for apiaries and a better market demand for honey. The writer is familiar with cases where the entire industry has been put on a much better basis as a result of extension work. The publicity which attends the activities of the teacher does more to interest the public in the use of honey than it does to interest new recruits as beekeepers. The beekeeper cannot afford to permit the official work to be abandoned.

The big dining room, cafeteria style, at the Kellogg factory, where three shifts a day eat contentedly

Eat Thou Honey Because It Is Good...

"It Is BEST With My Cereals," Says Kellogg.

And This Is One of the Greatest Boosts That Beekeeping Has Ever Had.

By G. H. Cale

HOW much is six billion five hundred million (6,500,000,000)? If I were asked to assign myself one of the hardest tasks, I could choose nothing that would hold a candle to sitting down and counting to that figure; yet this is the approximate number of times a year that the word "honey" is used in the advertising of the Kellogg Company of Battle Creek, Michigan.

Advertisers speak of the effect of constant repetition. Not all advertising men are agreed on its accumulative value, but I believe none of them will say that it is not of great importance in impressing the public with the things they should buy.

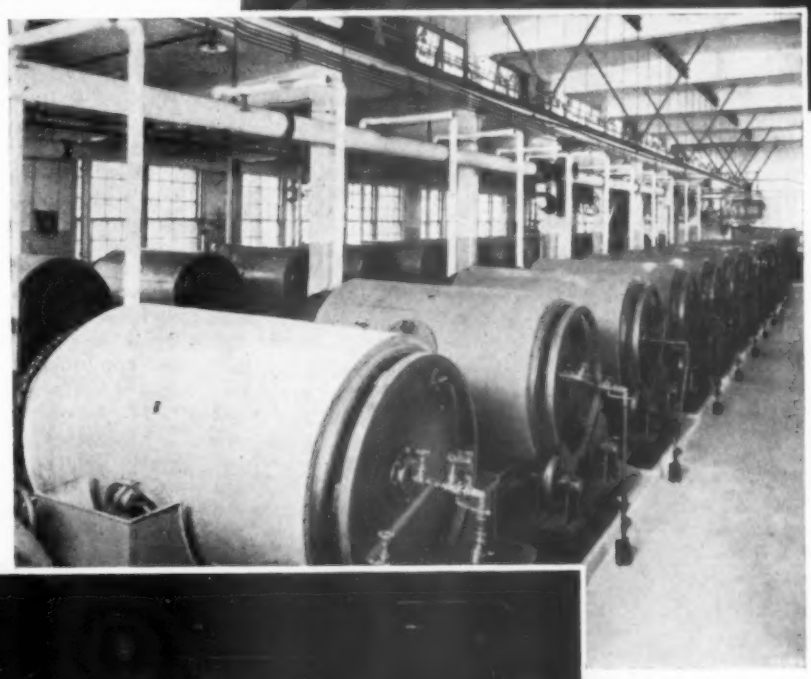
Merely to mention the word "honey" six and a half billion times a year in connection with a food product which finds its way into practically every home in the United States, and which is rapidly finding its way into homes in at least forty-five different countries, is enough to arouse favor for honey.

Upper picture shows the nursery, where the children of women workers are cared for and taught, up to a certain age, entirely at Company expense.

Lower picture is of the beautiful and well equipped hospital which is a part of the plant.

It should be remembered also that the Kellogg Company does not use this magic figure for a year only, but that it has been used for several years in succession, and it will be used, at least as long as W. K. Kellogg is committed to the belief that honey, as a natural sweet, is the only one he cares to use.

This year it was my good fortune to attend the summer meeting of the Michigan Beekeepers' Association in Battle Creek, at the home of Kellogg cereals. A fairly good picture of this great plant is on our front cover. Kellogg was the host to the beekeepers on that occasion. Any beekeeper at any time is welcome to visit the plant, and I can tell you that it is a wonderful glimpse into the magnitude of modern industry. I can scarcely approach a description



Top:

Three views of the factory. The paper bin holds a day's supply. How great is the power of the printed word! Kellogg's make their own boxes and do their own printing.

Center:

Revolving drum cookers prepare the hulled grain for shaping into cereals.

Bottom:

Gas ovens take the shaped cereals and give them a crisp brown.

of it without being open to criticism for over enthusiasm.

The two pictures shown here will give some idea of how the cereals are made. Selected white corn is purchased in immense quantities for the Corn Flakes, but this is only one of several products, each apparently made in a different building. They include Rice Crispies, Kellogg's All-Bran, Pep, Shredded Whole-Wheat Biscuits, Krumbles, and Kaffee Hag Coffee.

The grains are carefully tested in their own laboratory, because a high efficiency in raw material must be maintained to insure a uniform product. One picture shows the huge drums in which the grains are cooked. After cooking, the drums are opened and the grains fall on a belt con-

veyor underneath to be taken to driers, from which they go to the flaking rolls. These work under heavy pressure and force each grain into the form which it assumes in the finished product. The cereal is now toasted in revolving drums in gas ovens and is ready for packing.

One picture is shown of the rolls of paper, about one day's supply. Cartons, shipping containers and some printed matter are produced in a box and printing plant owned by the company. All of the packing is done by machinery. The finished cereals pass over belts from the ovens past sorters, who throw out any of the flakes which are off color. This sorting goes on constantly until sealing stops it.

Packages are automatically filled with weighed amounts of cereal, the wax sacks are sealed and the boxes closed and fastened by machinery, conveyers carrying the packages along, step by step, until they are placed in the shipping boxes.

So much for production. I was even more interested in labor conditions. One picture shows the cafeteria. A great deal of honey is served here. I believe our good friend Miss Mary I. Barber is the queen of this domain; at least she seemed to be. I remarked to her that if I could live on food like that which she had been preparing for us during our brief stay, I believed it would never be necessary for me to have a doctor. Of course she laughed, but perhaps she believed it might be true. Who knows? At least I think her efforts in home economics and in cooking are directed towards bringing about just such a happy condition. Anyone who is interested in the very best of modern diets should send to Miss Barber for her pamphlets on the subject.

This big dining room is filled with workers for meals three shifts a day. The factory runs twenty-four hours every day but Sunday, and the total of employes is about two thousand. Meals are very economical. One can hardly eat more than 40 cents worth unless he has an unusual appetite.

Labor is treated as though its units were men and women; one big family whose needs are served as though it really were a family. How can labor be happy under any other circumstances?

The picture of the day nursery and of the hospital bring this out. Those kiddies have mothers working in the shops. There is no charge for the nursery. Up to a certain age, she brings her children to be fed and cared for by the company. If an employee is injured or is sick, of course the hospital will take care of him, but, in addition to that, dental care is provided all employees. Every employee is on the dentist's list and gets his regular call for attention to teeth. Recently a violet-ray room has been added and those who wish may have their artificial sunlight twice a week throughout the winter.

So labor conditions as well as wages are such that no employee needs to be dissatisfied. His job carries maximum pay with a chance for doing better. The company has taken ordinary worries off his hands, in fact compelled him to do better than he would in his own home.

The history of the Kellogg plant dates back to 1907, when Mr. Kellogg first attempted to manufacture corn flakes. Practically everyone ridiculed the idea of making a palatable food from corn, and it was with a great deal of difficulty that the business was carried on for the first two years. What little progress had been made was entirely wiped out when the small factory in which Kelloggs were working was burned to the ground. This made a new plant necessary and it was put up with the best of materials that could be bought, modern in every way. Immediately the sale of cereals started to climb, and has steadily grown until at the present time the factory turns out over a million and a quarter packages of cereal each day.

Some years ago Mr. Kellogg personally became interested in the use of honey and adopted it as a staple article of food in his home. It was not, however, until the summer of 1926 that he decided to extend all possible influence toward the use of honey with the Kellogg cereals. From that time on, mention has been made of honey on all the cartons and in all the advertising of the company. Some idea of the far-reaching effects of this mention of honey can be gained when it is known that an equivalent of three thousand newspapers alone on all campaigns are being used to carry the advertising, with an expenditure totalling two million dollars per year.

So far we have said nothing of the work done by the home economics and educational departments. I believe this in itself is equal to the value of the advertising which honey is receiving in the printed matter of the plant. Beekeepers have become so familiar with Miss Barber that she seems like one of us, and when it is realized that her expenses and her time are paid for by the company, one begins to understand what this support means.

Personally, I have always been sorry that more beekeepers did not realize the value of the different printed pieces furnished by the Kellogg Company for distribution to customers. Two of the most important of these are the little folders, "Do You Like Honey?" and "Cooking with Honey." During 1927 and 1928, only 450,000 of these were sent out to fill the requests of about 3,000 beekeepers. After all, that's a very small percent of the number of beekeepers who should be taking advantage of this service. The poster, "Best for Health," which has proven so valuable, was only used by about 250 beekeepers. The second poster, which is still more attractive, is the one combining corn flakes and honey, shown on page 491 of the October, 1928, American Bee Journal.

Altogether, the writer was very much impressed with the good-will value of this advertising effort, and beekeepers should make wide use of the materials which are being furnished to carry the honey message to their customers. If it sells Kellogg's cereals, we will only be in part returning the indebtedness.

The new Honey Krisp Sundae recipe card for distribution to local stores. Every beekeeper should have a supply. Ask the Kellogg Company, Battle Creek, Michigan, for as many as you need. They are beautifully printed in black and red on light cardboard.

"Bee Milk" a Factor in Swarming

By Jay Smith

Why do bees swarm? This is a question asked more often than any other in beekeeping, and yet we do not **know** why bees swarm. Reasons have been suggested by several careful observers: too many young bees, too many old bees, an uncomfortable hive, too many drones, queens too old, a crowded colony, too little room for brood,—any or all of these factors may induce swarming. Jay Smith adds one more,—a too abundant secretion of royal jelly by the nurse bees.

WHILE much has been written about the causes of swarming, I believe that the secretion of "bee milk" or royal jelly by the nurse bees is an important factor in bringing about the swarming impulse. The past season was conducive to swarming and swarms came off during six months of the year. This was the first April swarm I have ever known in this locality. The heavy honeyflow the year before contributed largely to these early swarms by crowding the brood nest, a condition which is nearly always present when swarming occurs.

Crowding the brood nest alone, however, does not produce swarming, for usually, when the honeyflow is on in earnest, swarming discontinues, although the hive may have no super on it and the bees hang on the outside of the hive and may even build comb there. I have found that the conditions that bring about swarming are ideal for cell building; therefore I have done considerable experimenting in an attempt to make bees swarm. In practically all my attempts I have failed, except where the conditions were right for an abundant secretion of royal jelly by the nurse bees. And by nurse bees I do not mean young bees necessarily, for any mature bee becomes a nurse when the need arises.

In one attempt at forcing swarming, several years ago, I secured package bees from the South in early April. Into already strong colonies I put six pounds in several and nine pounds each in two others. The hives were so crowded that the bees clustered in the entrance. I then fed thin syrup regularly to imitate a honeyflow as nearly as possible. But nothing happened. There was no use in attempting cell building, for they would not rear worker brood to any extent. They had some brood in two or three combs only, and feeding did not make brood rearing progress. I should add that while this experiment was in progress the weather was rainy and cool, so that the bees could not get to the pollen in the fields. They had used practically all the pollen in the combs to feed what little brood they had. After a time the weather warmed up and apple blossoms came, when the hive was filled with brood as by magic. The drone-cells were filled with brood and swarming would have been in order had I not shaken them into swarm boxes to start queen-cells. This impressed upon me as never before the necessity of pollen in brood rearing and queen-cell building and the important part pollen plays in swarming. Bees cannot secrete royal jelly without eating pollen, and without royal jelly there will be no brood rearing, cell building or swarming.

Why is it that bees swarm more during a light honeyflow and just as a flow is coming on? Because at that time the bees gather and consume more pollen. In some localities they tell me that swarming is all over when the main honeyflow comes on. I am willing to wager (yes, I have many things to bet, such as hats, old shoes, etc., that I won on Hoover) that in such cases while swarming was going on there was a heavy yield of pollen. Usually when swarming is at its height there is an abundance of pollen and a small amount of honey. When the honeyflow comes on in earnest, swarming is curtailed and in many instances ceases altogether.

During a heavy flow, in many cases, pollen is scarce. In such cases swarming is rare. When there is plenty of pollen during a heavy flow there may be some swarming and there may not. Bees have the instinct to gather honey while they can; therefore they turn their attention to nectar, and the bees that have been eating pollen, that they may nurse the larvæ, no longer eat pollen, but gather nectar. In other words, the nurses change into fielders. Some races of bees continue to consume pollen during the honeyflow, thereby secreting royal jelly, and as a result brood rearing and swarming continue.

My observation convinces me that a bee becomes a nurse whenever it wishes to, by consuming pollen for a few days and possibly only a few hours before it becomes a nurse. We have known that feeding sugar syrup will cause the bees to become nurses when there is pollen available, if the feeding be continued several days. Feeding syrup causes the bees to eat pollen and also produces the fatty material for making the wax that forms the cells.

We have observed that an old queen will swarm more readily than a young one. I believe this is largely due to the fact that as she cannot lay enough eggs to produce larvæ for the nurses to feed, the nurse bees, in order to get an outlet for the royal jelly, start queen-cells. While I have never made any attempt to find out, yet my guess is that one queen larva requires as much royal jelly as two or three hundred workers. I cannot help but believe that the swarming

impulse is largely brought about by the secretion of royal jelly by the nurse bees in an amount above the requirements of the worker and drone larvæ. In order to create a market for their surplus jelly, they build queen-cells, the queen lays in them, and the queen larvæ take the surplus.

In my experience, the more prolific the queen the less liable is her colony to swarm, provided their hive does not become crowded. I attribute this to the fact that there are so many worker larvæ that they take all the jelly the workers can supply. Eventually, of course, the workers will increase till they can supply more jelly than is required, but the more prolific queens delay this condition and in the meantime the honeyflow is on and the nurse bees turn to fielders. Some of our best authorities believe that the reason swarming is excessive during a rainy spell is because the bees are kept in the hive and crowd it to such an extent that swarming takes place.

That no doubt has its effect, but I am inclined to believe the excessive secretion of jelly is a large factor. Whether or not the bees are working in the fields during the day, they are all in the hive at night, so that their being out, part of the day, does not seem to me to be the big factor. I believe that as the rain prevents their bringing in large amounts of honey, they continue to be nurses and do not turn to fielding. They can get pollen when it is too rainy to get honey, and the pollen is what produces the jelly that promotes swarming.

In that excellent Research Bulletin No. 108, "Time Factors in Relation to the Acquisition of Food by the Honeybee," by O. W. Park, Ames, Iowa, the following statement is made concerning pollen gathering on humid days:

"Humid, cloudy days, if not too cool, seem to be more favorable for pollen gathering than hot, sunny days, which are to be desired for nectar gathering. The reason for this is that on a hot, sunny day the anthers of the flowers shed their pollen quickly, so that by noon or before no more pollen is available, whereas on humid, cloudy days the flowers continue to yield pollen most of the day."

The above statement bears out my theory that rainy days may, under certain conditions, increase swarming, due to the fact that more pollen and less nectar is gathered. This also throws light on the question as to why in most localities swarming ceases after the honeyflow is well on. Weather that is most favorable to the secretion of nectar is less favorable to the secretion of pollen, and as a result less bee milk is secreted and less swarming as a consequence.

Last spring during a light honeyflow rain fell most of the time. When the sun came out, usually some swarms came too. Later the white clover flow was over, but the rain continued, but there were no swarms. When the sweet clover flow came on, there were more swarms. I was surprised last spring to see how bees gathered pollen even during quite a heavy rain.

Kennith Hawkins has been hinting around that he does not quite swallow this. Tell you what to do, Kennith. Next spring when it is raining, climb out of that swivel chair of yours, take off your house slippers, have one of the office girls hold an umbrella over you, and go out to a beehive. Watch a while then tell us what you see.

I noticed something very interesting on the seventeenth of November. Frost had killed all pollen-bearing plants but the weather had turned warm as spring time. The bees were comfortably packed in their winter cases filled with dry sawdust. I was thinking what an ideal time for brood rearing if pollen were present. The bees seemed to think so too, for when I went by the pen in which my boy keeps a pet rabbit, I looked at the dish of rolled oats he feeds to the rabbit and noticed the bees were patting the oats into their pollen baskets. I have some Carniolan bees and winter them at the home yard with the Italians. The Carniolans outnumbered the Italians four to one on the oats. They seemed determined that the baby bees should have some oatmeal. I picked one up to examine the oats in its pollen basket. When I let it go, instead of flying to the hive as I expected, back it went after more oats!

Bees For the Honeyflow

By Nicholas Zimmer, Jr.

IT is important to note that four essential factors enter into the securing of a good crop of honey: (1) A sufficient amount of bloom of healthy and well-nourished nectar-secreting plants, growing in soil to which they are adapted and well within range of the apiary. (2) Weather conditions favorable to nectar secretion and bee flight. (3) A large number of workers in excess of those needed for the routine work of the colony. (4) Conditions of the colony making the storing instinct dominant. If any one of these factors is absent, the effect of the other three is immediately nullified, and the amount of honey secured will vary as these factors are present at the same time in greater or less degree or as the time during which they are all present is longer or shorter. It is therefore possible to have each of these factors present at some time during the season without securing a crop of honey. The period during which they are all present at the same time is usually quite short.

Grouping the first and second factors, we have a combination usually spoken of as locality and season. These factors are largely beyond the control of the beekeeper, except that (1) he may choose a location in which both are usually present at some time or times during the season; (2) he may take advantage of the plants of several locations by practicing migratory beekeeping, or (3) he may improve a given locality by directly or indirectly increasing the amount of nectar-secreting plants such as buckwheat, alsike clover, sweet clover, or alfalfa.

In the third and fourth factors we have conditions capable of being brought about by management and for which the beekeeper is more directly responsible. The beekeeper's skill, therefore, lies in supplying and maintaining these factors throughout the short period during which the bees may store more than they consume. In order to do this, he should know which plants may be expected to furnish the nectar for his crop of honey, that his various operations may be properly timed. It should be noted that the shorter the duration of the honeyflow, the greater becomes the necessity of having the colonies in proper condition at its beginning and keeping them so until its close.

Nectar may be available in abundance and the weather may be ideal for gathering and storing, yet no honey can be produced if there is not a large force of workers in each colony, in excess of those needed for colony maintenance, to gather and store the honey crop. Furthermore, nectar may be abundant, weather conditions ideal, and the colonies strong, with the results in honey secured meager or none at all because the beekeeper has failed to keep the forces of each colony together and the storing instinct dominant. It is a common occurrence among inexperienced beekeepers to have the colonies become strong enough to work in the supers only after the flowers have ceased bloom-

(Continued on page 247)

High Points in Southern Beekeeping

By Jes Dalton, Secretary Southern States Beekeeping Conference

IN starting to write of the Southland for the American Bee Journal it would seem out of place not to acknowledge our indebtedness to the present publications of the South, the Dixie Beekeeper, edited and published by that veteran bee man, J. J. Wilder, of Waycross, Georgia, and the Beekeepers' Item, of San Antonio, Texas, published by E. G. LeStourgeon, better known to all beekeepers as "Guy."

Those two papers, the one in the East and the other in the West, laid the foundation for southern beekeeping and a real southern press. They were with the southern beekeeper in his earlier days, and in his darker hours, pulling and fighting for his interests long before the flood and reconstruction period, down through that period, hard into the campaign for the Southern States Bee Culture Field Station and for its establishment at Baton Rouge. As organizers and pushers for the Southern States Conference their columns were always open for discussions of the problems of the South.

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The Southern States Bee Culture Field Station.

The Southern States Bee Culture Field Station was established by the Federal Bee Culture Laboratory at Washington, D. C., under authority granted by the last Congress. Its purpose is to study problems in beekeeping peculiar to the southern states. It was opened last July by W. J. Nolan, of Washington, D. C., who was shortly relieved by Dr. Warren Whitcomb, Jr., formerly of Wisconsin and New Hampshire, and Dr. Everett Ortell, who finished his beekeeping work under Dr. Phillips, of Cornell University.

Both of these men now reside at Baton Rouge, and as the first work in their new field is to get well acquainted with the beekeepers of the whole South, you are cordially invited to call on them at the station when you are in Baton Rouge. (See their photos on page 221.)

An immediate problem is a survey of the southern honey plants, their time of blooming, their yield and importance. Collaborators are wanted to send in specimens and data from the whole Southland. If you find honey plants or facts about them, write to the Southern Bee Culture Field Station, Louisiana State University, at Baton Rouge, Louisiana.

Other work will be taken up as it is found necessary and practical, and progress reported from time to time in these columns. Specimens of honey plants will be identified if sent to this laboratory.

The Southern States Beekeeping Conference, at the Baton Rouge meeting, passed a resolution requesting and authorized the field station to make an immediate survey in order to recommend a standard for package bees, nuclei, and queens for shipment. The idea is to bring some degree of order out of the chaotic conglomeration of containers in which these goods are now marketed and shipped.

This work is receiving immediate attention, and all those interested, either as buyers or shippers, should get in touch with the station at once, as they will want the cooperation, not only of the beekeepers of the South, but of the entire country.

We wish to impress southern beekeepers with this point, that while this station is located in Louisiana, it is not by any means a Louisiana institution, but is national, and the degree of benefit obtained by any one group of beekeepers will probably in the end be guaged by the amount of interest and cooperation extended.

In other words, the amount of money appropriated is small when considered as an investment in expensive laboratory equipment, salaries, traveling expenses, etc., and if we get much out of this institution it behooves us all to get solidly behind it and cooperate and work hard so they can reach out as they become established. The average beekeeper knows that, even with its establishment and the beginning outlined, it is really just a beginning to the problems confronting us on which we would like to have the light turned by laboratory and field experiments.

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The Southern States Beekeeping Conference

This organization was probably an outgrowth of the old original idea of a "tri-state organization," Texas, Louisiana, and Mississippi, all with the same climatical and geographical problems. For years an attempt was made, only partially successful, to hold summer meetings of these three states in succession. The movement grew and with various southern states cooperating resulted in a meeting at Baton Rouge, Louisiana, February 8 and 9 of this year, in which fourteen states were represented.

While this organization is primarily southern, up to the present time it has had no set rules or by-laws. Anyone coming inside the doors with a message or question on beekeeping has the same rank and privileges as those who have supported it for years. It collects no dues and pays no salaries.

It tackles problems primarily southern, yet at Baton Rouge, working on a plan to standardize packages and queen and nuclei shipments, buyers and representatives from the North were given the same consideration as southern shippers. Nationally it pledged support to the American Honey Institute.

It will work for the good of beekeeping with any organization, cooperating in defeating discriminative or damaging legislation and favorably supporting legislation or appropriations or plans for furthering or popularizing honey.

It will sponsor cooperation for the southern field station along these lines. It is actively interested in the station's work in securing data on southern honey plants, times of blossoming, their value, etc., and also in the standardization plan for southern shipments. The Conference is working out and developing plans for the summer meetings of the southern states, to follow each other in succession so the dates will not conflict, and they will correlate on the starting point, say in Texas, which has its dates set for the last two days of July, clear over to Georgia, which has its dates for the last week in September.

This will have many advantages. Speakers or representatives of the bee supply houses or the bee papers wishing to take in two or three of these meetings could do so in one swing, shop around and get acquainted between times.

Problems like inspection, honey marketing, etc., could be taken up and followed from one meeting to another. A general policy of holding the summer meetings with the summer short courses with the various states may be worked out. Up to this date, Texas, Louisiana, Mississippi, Georgia, Florida, and Tennessee have signified a willingness to cooperate. To accomplish something worth while, some minor points will have to be sacrificed. Those wishing to cooperate should at once take it up with the Conference secretary at St. Francisville, Louisiana.

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Cooperative Marketing of Southern Honey

Probably this is a question just now of more immediate importance than any other one. Louisiana State Beekeepers' Association, with its ear, as usual, to the ground for indica-

tions of any movement directly affecting the industry, at its last two meetings gave this question "right of way" and a new set of officers were elected on pledges to take up the market question at once.

W. E. Anderson, state entomologist, under whose efficient administration Louisiana was moved up in rank from a state with no disease law or inspection to one having efficient inspection and complete coordination of beekeepers and officials, was elected president. His first move was to call a meeting and appoint a committee to find out the available amount of honey, plans to finance the shipping of it to a central point, blending it there, and packing it for market. The immediate result was the blending of several carloads of honey from both Louisiana and Mississippi and selling it on the foreign market at a price very favorable to the producer.

This cooperative marketing plan has great possibilities. New Orleans occupies a peculiar strategical location at the mouth of the great river system and is a rail terminal center. Being a link between these and the export points for the foreign world, with ample dockage and warehouse facilities, coupled with the fact that the association has a thoroughly competent European salesman always at disposal, we are able to avoid the rock that has broken up so many cooperatives. This association will take one-half of your honey and handle it for you, and let you do as you please with the other half and no strings tied to you on prices nor where you market your reserved portion.

By doing this, the association is able to sidestep all the old pitfalls of unfavorable contracts and stock selling schemes that have been so fatal.

We hope that more state organizations will take this up between now and extracting time. Get in touch with the chairman of this cooperative association, Mr. W. E. Anderson, State House, Baton Rouge, Louisiana. The more honey marketed, the more power to the organization, the cheaper the operating costs, blending charges, etc.

It is hoped that a much wider market can be obtained when enough publicity is given about the organization and the fact that it can furnish carloads of honey, so that a way will be found to market our poorer grades. This will lead also to a better financial system whereby once a shipper furnishes a railroad bill of lading for his honey he can be at once furnished with a substantial cash advance on the shipment by means of the bonded warehouse receipt security.

With both Mississippi and Louisiana operating, there is no reason why adjoining states should not take advantage of this as well, and enlarge the whole plan. It is, of course, new and is bound to be crude, but it did relieve a lot of embarrassed beekeepers of an unsold honey crop at fairly good cash prices in 1928-29.

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Louisiana

W. J. Nolan, of the Bee Culture Laboratory at Washington, D. C., is down at the southern field station helping the boys get started on queen rearing. W. J. is reputed to be about the best authority on brood rearing in the Federal service, and everyone will appreciate the bouquet our climatic location throws in giving us a season three weeks ahead of the national capital, thus giving us the services of such valuable men as W. J. Nolan.

The winter and early spring has been severe in this state, holding back brood rearing, except for one warm spell in January, but it also held back the early honey flow until the last week of March.

Bees seem to be building up wonderfully. Package orders in some places are reported slack and in others abundant. The flood situation, owing to rising waters in the upper states, looks bad.

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Alabama

Local rains tore up bridges and roads, but most bees were on high ground and seem to have escaped. The winter and early spring has been severe and the early flow light, but bees are building up rapidly. Package orders are quite slow.

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Georgia

Local floods, with the big streams and little ones running together, divided the land into strips.

The chief news from the Mississippi River, east, seems to be backward spring weather, retarding the growth of honey plants. Roads and bridges have been torn up, making apiary work very slow and difficult.

Tennessee and South Carolina have just signified a willingness to support the Southern States Conference to the utmost of their ability, and it looks as though it will be an easy matter to hold the meetings of the various southern states so one will succeed the other and not conflict.

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Mississippi

Bees wintered well in Mississippi owing to early cold weather in spring. Nectar flow was light, but with stores on hand bees built up fast and the warm weather of the latter part of March found them in shape to store heavily. Orders for packages have been somewhat slow, and, owing to this and keener competition, there has been a slight tendency to price cutting. High water and floods seem to have done no great damage to bees, but, of course, by tearing up highways and bridges, and the cold, bad weather accompanying the storms, caused the beekeepers much delay and discomfort in working apiaries.

Lenawee County (Mich.) Beeswax Pool

The Lenawee County Beekeepers' association is the most progressive local beekeepers' association in Michigan. This is not an accident, but follows the earnest effort of a group of public spirited commercial beekeepers who have been continuously active in their efforts for their association for the past ten years. An announcement is received stating that Mr. Earl Keller, Medina, Michigan, has been appointed manager of the 1929 wax pool. The pool is organized as follows: All Lenawee county beekeepers having either old combs to be rendered, or beeswax, may ship the wax in double burlap sacks to a designated foundation manufacturer, freight prepaid, the wax to be credited to the Lenawee County Beeswax Pool. The wax may be sold outright, or, if it is desired to have foundation made from it, a reduced price can be obtained through the pool. Beekeepers in other counties could make a considerable saving on their foundation costs by doing likewise.—From Beekeepers' Letter, Michigan State College, February, 1929.

New Edition of Root's A B C

The new edition of A B C and X Y Z of Bee Culture, by A. I. and E. R. Root, has recently come from the press. This book holds a place all its own in beekeeping literature, for it is a cyclopedia. It was first published in 1877 and has run through numerous editions with extensive revisions until it has attained its present scope. It contains much material not elsewhere available and is widely used as a reference book. The present edition appears in somewhat smaller page and finner type than its predecessors, apparently for the purpose of including the great mass of material at the present price of $2.50.

Honey for Stomach Ulcer

I know two people who had ulcers of the stomach. The doctor put them on a diet using honey for sweet instead of sugar and they are well today. If honey will cure, why would it not be better to use it as a preventive?

C. L. Duax, Chicago, Ill.

Color Schemes, Gingerbread and Honey

By Betty Bee

WELL, the season of 1929 has begun in our bee lot, this time in a flurry of white paint. I really intended to keep out of it and let John do it himself, but I didn't. With true wifely solicitude I had to go out occasionally to see how he was progressing and offer a few timely suggestions; but the lure of the out-of-doors held me until dear old John suggested, "It's so much more sociable to have you here! If you care to help while we talk (in reality he had been doing all the talking) I'll get the other brush," and before I had time politely to decline he had the brush and I found myself at it again.

Now I know all about this painting business. The first ten hives are wonderfully interesting; the next twenty a bit less exciting. The next thirty make you wonder how it would feel to be a back-lotter with two "gums" under the grape arbor. To be sure, John is charming and entertains me with gems of beekeeping oratory properly emphasized by graceful gestures with his paint brush or by its entire abandonment to better illustrate his remarks. Then, too, he has the sweetest way of admiring my efforts and complimenting me on my speed and skill.

John's art seems to run to fancy paint, but this year we only did plain, ordinary painting—just white, with no ornamental fixin's and frivolities. John's beekeeping system shows a tendency to color schemes. For instance, in 1910 or 1911 one of those high-browed individuals, who write for the journals and bait unsuspecting beekeepers with easy-going wives into trying out all sorts of quaint notions, suggested that nectar depositing and the honey crop generally could be materially increased and accelerated if each hive entrance were painted a different color.

Now doesn't that sound entirely logical and practical. Anyone "heavily loaded" might lose the location of the family latchstring if he lived in one of ninety-nine or more houses exactly alike. Just try it yourself! How intensely practical and extremely artistic too! Utility and beauty should always be combined. Certainly this splendid style of beekeeping practice was worth any beekeeper's time and trouble! I meekly suggested to John we improve on the suggestion and, in addition to the display of rainbow tints, paint ours with neat polka-dots, stripes and cubistic designs, thus adding style and elegance, but John thought the first season plain coloring might be sufficient.

So we started out. That is, John bought the brushes and paints and showed me his idea of how it should be done. Then he was called to hive a neighbor's swarm, and later had important work with some extracting supers that simply had to be attended to. However, thrilled by this combination of artistic beauty and practical efficiency, I kept on—a red front, a blue front, a green, a yellow, etc., etc. Our bee lot began to assume a circus day effect. At a distance it looked like a very gay but slightly scrambled Scotch plaid. The weather was warm. I grew warmer.

The days passed and other beekeeping tasks continued to absorb John's time and attention, though he frequently tarried long enough with me to compliment and admire my efforts. Only the bees themselves seemed to object to my improvements. The elegant new house-fronts apparently blinded the homecomers. They did not appreciate the changes, while the stay-at-homes strenuously objected to the sweeping and vigorous style of my manipulation.

I was doing it all for their ease and comfort! I did not personally like to sit out in the hot sun. I did not enjoy being daubed from head to foot with all the colors of the rainbow. That did not add anything to either **my** utility or **my** beauty! I was doing it for them, and they not only resented it, but resented it most emphatically and strenuously. It was evident they did not appreciate modern art. What is the use of reforming or helping an ungrateful public?

My own enthusiasm began to wane. The year before, we—no, I—had tacked beautiful, shiny aluminum numbers to each hive. Maybe bees preferred to stop and read their house number. Maybe they got tired of their own home and preferred to take their loads to the neighbors. Who knows? The sun grew hotter, the paint stickier. Had I nothing more profitable to do? After all, why should I worry? Let 'em just dump their pesky nectar any old place that suited them! It was their nectar! I timidly confided my thoughts to John, and the dear fellow relieved the situation in that tactful way men have by announcing he would finish the job just as soon as he got the extracting done. At any rate, would I **please** come and help wire foundation?

I then and there vowed I was through with paints and brushes forever; I would never again attempt to improve our bees by training in art or introducing labor-saving devices. If in the future John ever wanted any painting done by me, I might, if properly coaxed and flattered, proudly and with dignity condescend to decorate our hives, but it would be with good old-fashioned whitewash mixed in the mop pail and spread on with a long-handled broom at a good, safe distance; but as for paint, whether white, variegated or colored—I was through forever.

* * *

Honey Gingerbread—I wonder if your Johns are fond of honey gingerbread? Of all our honey recipes, I believe this is my most treasured. It is so easy to make, so reliable, so altogether delightful that I hope you will enjoy it. Make it as follows: Two eggs, two cups warmed honey, one cup sour milk and one-half cup melted shortening beaten together vigorously until very fluffy. Then add a little at a time the following, sifted together: Three and one-half cups flour, two teaspoons soda, one and one-half teaspoons ginger, one-half teaspoon cloves, one-half teaspoon nutmeg and two teaspoons cinnamon. Bake in well-buttered loaf pans, layers or muffins. Serve warm or cold. One cup of raisins may be added if desired.

Honey Tea Biscuits—In the early spring, when the warm weather is apt to play hob with sweet milk, the housewife often wonders just how best to use it. Honey tea biscuits nicely help to solve this problem. To three cups whole wheat flour add six tablespoons melted shortening, three tablespoons warmed honey and one teaspoon salt. Mix well. Then add one and one-half rather scant cups sour milk in which is dissolved one teaspoon of soda. Mix lightly, place on floured board, pat or roll into one-half inch thickness, cut into biscuits and bake in quick oven. Serve hot with butter and honey.

Honey Nut Bread—Another delicious way in which to use sour milk is in honey nut bread. Beat together three-fourths cup warmed honey, one egg and one cup sour milk. Then add one and one-half cups white flour and one and one-half cups whole

(Continued on page 240)

Why Is a Beekeeper?

Reasons Why Men Choose Beekeeping as an Occupation or Hobby in Preference to Other Callings with Greater Financial Opportunity.

By Frank C. Pellett

WHEN Leslie Nordholm of the advertising department came into my office with the question, "Why is a beekeeper," he gave me something to think about. Well, why is he, anyway? I am sure I don't know. It is important for Leslie to know, for if the ads are to hit the mark they must be written with knowledge of what interests the reader. He must know not only that a reader is interested in a particular article, but he should know also why he is interested in it and just what he will do with it after he buys it. The man who is interested in bees to help him forget his troubles at the end of a day's work is a different kind of buyer from the man who invests all his time and all his money in honey production to make a living for his family, an education for his children, diamond ear-rings for his wife, and overalls for himself.

The more I thought about Leslie's question, the more interesting it became and the more I wondered as to what might be the compelling motive that decided whether or not folks would be beekeepers. I remembered hearing the chief of this organization, C. P. Dadant, tell how his interest was aroused. He was the son of a beekeeper, the late Charles Dadant. As a boy he did not like the bees and wanted nothing to do with them; he was afraid of the stings and preferred to keep as far as possible from the apiary. When his father was sick and unable to care for the bees, on which the family living depended, he found that he must tackle the job.

There is nothing more stimulating than success in any field. He was pushed into the apiary at the beginning of an unusual honeyflow. The excitement of the bees was communicated to their keeper. It made him hustle to get supers to the apiary fast enough to keep ahead of the bees. The sight of the big honey crop piled up within such a short period of time kindled an interest that has lasted from that day until the present; although he is now past 78 years of age, bees still occupy his keenest attention.

In trying to analyze the reason for this special interest, it would seem to me that the element of activity with the possibility of exchanging the incoming honey for everything needed by the family was the deciding factor which made my chief a beekeeper for life.

When Leslie asked me to throw some light on his problem by telling him why I, for an example, am a beekeeper, I was stuck. I am not quite sure myself, and you, my dear reader, may find yourself in similar difficulty if you try to explain just why you follow the gentle art. There was an element of accident, I must confess, for my grandfather was a beekeeper and I spent much of my childhood following him about his daily work. After he died, however, I was out of touch with the bees, and it was a personal attraction that drew me back again. My wife says that as soon as I become familiar with a subject I lose interest in it. According to her opinion, it is the mystery of the hive which holds me. There is always some unanswered question which must yet be investigated.

We have numberless animated discussions, here at the office, of all kinds of questions. Most of them are soon forgotten, but I am still trying to see whether an answer to Leslie's question can be stated in a few words and stand the test of cold examination. Why do folks keep bees? Why, indeed, is it bees instead of chickens, or strawberries, or flowers? Why does the busy man prefer to work with the bees instead of playing golf?

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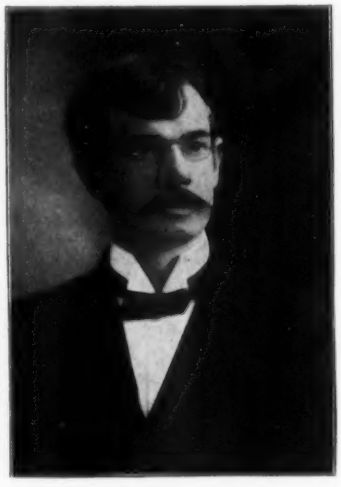

ALLEN LATHAM

After asking several others to answer the same question, I found them all rather uncertain as to details. There is much of human interest in the stories of the beginnings. Allen Latham, for instance, when a schoolboy, found a stray swarm clustered on a limb. Allen was a butterfly collector and interested in insects. Another boy had read that a swarm of bees was worth $20, and Allen wanted that twenty. With several layers of clothing, and a butterfly net over his head, he captured the swarm and then sat up half the night reading Langstroth's book for information. He has been a beekeeper ever since, and yet he seems a bit hazy as to just what it is that has such a hold upon him. I take it that the element of mystery has a big attraction for Latham.

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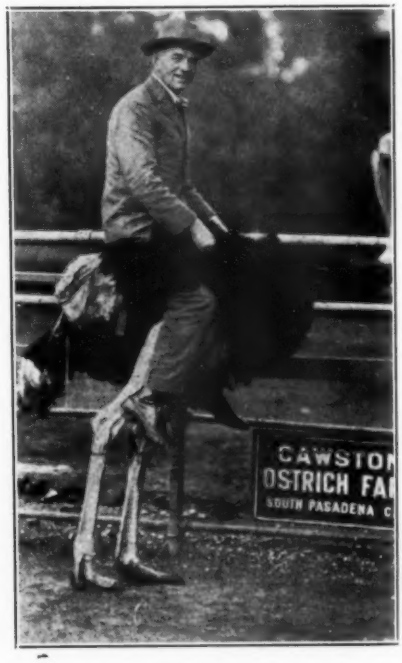

JAY SMITH

Jay Smith became fascinated with bees through reading a rather extravagant account of them in a book of natural history. He carried about some rather hazy ideas concerning them for many years before he tried keeping bees for himself. He admits, however, that it was when he visited his best girl and she served him with hot biscuits and honey that his real interest developed. Jay has a reputation as a student of bee behavior and claims that it is the insects themselves rather than the profit from their management that attracts him, but, judging from the biscuit and honey incident, the practical aspect was important in his case.

H. C. COOK

A surprising number of beekeepers date their interest from contact with a stray swarm. H. C. Cook, the well-known Omaha policeman, belongs to that group. A swarm had clustered near the police station, and after another man had tried for a long time without success to hive them, he resigned in favor of Cook. After Mr. Cook had cut off the limb and had the bees down on the sidewalk, a tramp happened along and helped to hive them in a cracker box. It would be interesting to know how many boxes intended for crackers have served for beehives in cases of this kind. Cook says that when he got the bees home he bought a bee book, laid aside his Bible, and that most of his reading has been about bees since then. At that we are still left in the dark as to whether Cook wanted the bees in the first place in order to get some honey to sell, or merely because there was something here which he did not understand and which he wished to know more about.

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George H. Rea has been going about preaching the gospel of better beekeeping in North Carolina, Pennsylvania and New York for many years, and now he works with his own bees down at the old home town. After considering Leslie's question as to why he is a beekeeper, for two weeks, he answered that he didn't know. As a boy he kept bumblebees in boxes and spent hours in watching them in summer and wondered what became of them in winter. His real contact with honeybees came when, visiting an aunt, he was severely stung while watching her hive a swarm. George is descended from a line of old-time German beekeepers and he resented the stings. He bought a colony from that same apiary, and is not sure but it was the same colony. Then he proceded to find out what was going on inside the hive, and he has been investigating ever since. Still, George can't figure out why he is a beekeeper.

GEORGE REA

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J. J. Wilder, who is widely known as the most extensive honey producer in the South, says that his natural craving for honey started him in his life work and has kept him there. At the age of four he visited a hive in an effort to secure some honey, and was so badly stung that it required the active efforts on the part of his elders to rescue him from his plight and save his life. In spite of his

J. J. WILDER

punishment he retained his craving for honey and continued to visit the hives at every opportunity. Later he secured bees of his own, and since that time has devoted his attention to the production of the largest possible amount of honey.

N. E. FRANCE

Several have engaged in beekeeping as a natural result of circumstances. N. E. France was the son of a beekeeper. As a boy he was given a half interest in the bees, which were secured by transferring from the trees. He grew into the business gradually and naturally until, in 1890, he owned seven hundred colonies. Through his position of general manager of the National Beekeepers' Association for many years and his position as state apiarist of Wisconsin for a long period, France became widely known among the bee men of America.

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M. H. MENDLESON

M. H. Mendleson, well known as one of the old-timers of California, found it easy to start because his father was induced to take some bees

in box-hives in payment of a debt. When he was given the bees his interest was aroused to the point of learning everything possible concerning them. Later, after reading the account of the great shipment of honey from California by J. S. Harbison, he went to New York City to see the honey and from that was led to visit the far West in search of a wider opportunity. He hired to R. Wilken, who at that time was an extensive and successful bee man. Mendleson gradually extended his operations until he had fourteen hundred hives or more of bees, and yet he contends that the financial returns are not his primary interest. It is the love of nature which has held him.

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N. E. MILLER

N. E. Miller, with his thousands of colonies, is generally regarded as one of the most extensive beekeepers, if not in fact the world's largest. He says that once one gets into the bee business it is hard to get out gracefully and without loss, and hence it is quite natural to continue. Like Wilder, he gives his love of honey as probably the thing which had the most influence in getting him started. Miller is the kind of man who would want to push any business in which he engaged, and, once he began honey production, it was inevitable that he would do it on a large scale. Like everybody else, he mentions the intangible fascination which we all recognize, but which no one can quite describe.

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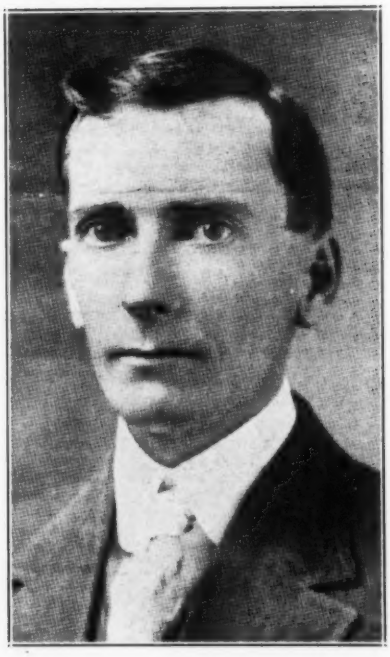
L. L. Andrews, one of California's leading bee men, says that we are all to some extent creatures of circumstances. He started with bees because he had little money and found wild bees which he transferred to hives. Because he loved the open, and work with bees was not confining, he has continued to give more attention to them with the passing years. As one who makes his living from the bees, he says he would follow the same occupation if he had his life to live over with his present experience to guide him.



L. L. ANDREWS

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J. D. BEALS

J. D. Beals is one of the younger generation who produces honey on a big scale. He says frankly that in his case it was "root, hog, or die." He was just out of the army and under the necessity of finding something to do which would provide for his living, and bees suggested themselves as the one thing which could be started with the limited capital at his command. He started with fifty colonies and has increased them every year since then. Some time ago I heard that he had over a thousand colonies. Like Miller, he says that all he has earned each year has gone back into the business of extending his apiaries, which makes it increasingly difficult for a fellow to get away from it. Then he mentions that other elusive reason, "the call of nature," which is irresistible.

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DAVID RUNNING

David Running, of Michigan and Alabama, who conducts his apiaries along lines similar to those followed by big business enterprises, began with $100 of borrowed capital. As a young man he was a sailor and looked forward to a bee business of his own. While he loved the bees and was not unmindful of the elusive attraction so often mentioned, it was a business opening that he sought from the start.

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MISS RUTH SUCKOW (at left)

Miss Ruth Suckow is a famous author who is listed in "Who's Who in America" as a beekeeper. Miss Suckow says very frankly that she was attracted to bees because they promised to furnish her with an income while she was getting established as a writer. She says also "the organization of the beehive is one of the most fascinating of living phenomena, and the bees themselves are among the most interesting of living creatures."

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L. T. FLOYD

L. T. Floyd, who has made such a reputation as an extension teacher in the province of Manitoba, started with bees on the farm down in New Brunswick. When he was elected an officer of the local association he showed what he could do as an organizer, and soon he was giving lectures over the province and later was invited to assume similar work in Manitoba. The story of the amazing development of beekeeping in the latter province under his leadership is familiar to all. Floyd seems unable to put his finger on the real reason why the bees have overshadowed the berries and the dairy and other interests which occupied him equally when he lived on the farm. He followed a natural bent, and the results are apparent, although he had no idea, in the beginning, of the career on which he was entering.

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J. E. Crane, the grand old man of New England, who is now in his eighty-ninth year, has made beekeeping his life work. Crane honey is well known in some of America's leading markets, and Crane comments have long been a popular feature of America's bee papers. As a boy he was an invalid and his future opened to him as a question, not of what he preferred to do, but of what his physical limitations

J. E. CRANE

would permit him to do. His experience in finding a way to establish himself would make a story all by itself. He figured that with bees he might be able to hire a man to do his heavy work, and that is what he did. Yet he has found the relationship between his bees and the flowers from which they gather their harvest something of outstanding interest which has occupied him all these years. Botany and bees furnish a wonderful combination.

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NOAH WILLIAMSON

Work in the apiary, an opportunity that opened just when he was looking for one, is what made Noah Williamson, president of the Iowa Beekeepers' Association, a bee man. Williamson keeps about thirteen hundred colonies of bees and is probably the most extensive honey producer in Iowa. He took up beekeeping as a purely commercial proposition at a time when he had closed out his other interests. I have found but few like him, and yet Williamson is not unmindful of that same thrill that comes from the humming of the bees among the flowers, the call of nature, as Beals calls it.

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DALLAS LORE SHARPE

Finally I appeal to Dallas Lore Sharp, the philosopher and seer of Hingham, the schoolmaster-naturalist, who writes so delightfully of everything that has to do with the out-of-doors. The mystery of the hive is plainly the source of its great appeal to him. As J. F. Diemer says, "How can the bees do so much without a college education?" Let me quote Sharp, who speaks of the wonder the hive awakened in him when a child:

"Every one of those early outstanding impressions has pursued me ever since, and out of them my later life seems to have eventuated. None of them was deeper or fuller of mystery than the bee life of the hive."

Sharp offers a suggestion which may lead to an answer to our question when he says that for every man he knows who keeps bees for money, he knows ten who keep bees for the love of them and the right they give him to the poetry, the philosophy and the religion of living.

I turn to his book, "The Spirit of the Hive," and on page 43 I find my answer:

"I cannot make clear this great mystery. Every sailor, every woodman, every farmer feels it, every gardener who puts a seed into the soil and loves it into life, but most of all every mother knows it. And he knows it, too, who, moving among his bees, bids them harvest the hills and glean the faded roadsides—gathering the attar of joy where the summer before they sowed the golden pollen of life."

Lives of Famous Beekeepers

PUBLIUS VIRGILIUS MARO

By Kent L. Pellett

Thus I sang of the tending of fields and flocks and trees, while great Cæsar hurled war's lightnings by high Euphrates. . . . Even in that season, I, Virgil, nurtured in sweet Partenope, went in the flowery ways of lowly Quiet.—Book IV, Georgics.

WHEN, a half century before the coming of Christ, Cæsar was engaged in his Gallic conquests, it is said that there was in his armies a tall, dark Mantuan youth of consumptive tendencies named Publius Virgilius Maro. The rumor continues that he was not a good soldier, in fact that he quit the roughness of army life almost in disgrace and returned to his studies at Rome. But the youth later atoned for his lack of soldierly qualities by reproducing the battle scenes with such vivid reality in his poems that they were still to be read and lived again by school children twenty centuries after Cæsar and his legions had descended into dust.

Virgil came from Mantua, north of the Po, where was to be found the purest of the old Roman stock which had settled the country before the wars began to bring a seepage of foreign blood into Rome. Mantua was more true to the old, stern Roman traditions than Rome itself. There under the edge of the Alps the race grew more imaginative than their southern neighbors, and sent to Rome clever young men of pronounced vigor and intelligence, unspoiled by the turmoil and the correct manners of the city.

Such a young man was Publius Virgilius Maro. Reared on his father's farm on the Mantuan plain, he learned the tasks of the farm boy of north Italy. He doubtless had to care for sheep and horses, cows and goats, and had frequent repasts on the common fare of roasted chestnuts and goats' milk cheese. There he kept his first bees in dome-shaped osier and bark hives and caught as much of their lives as those domiciles would allow him. These farm scenes he was later to reproduce in his poems.

Whether or not he was a better farmer than a soldier, his father, a wealthy landholder, saw early in his son ability for other things than farming and was determined to give him the best education available. So Virgil went to Rome to study law.

It was a critical period in the history of Rome, and with most of civilization in Roman hands, one of the most critical in the history of the world. Currents were astir in the city that would bring about the downfall of Cæsar and eventually the disintegration of the Roman empire. While he walked the streets and often stopped at the Forum, Virgil lived again the glory of Rome, the march of Roman triumph since the boy Romulus was suckled by a wolf. Quick to discern the unrest that seethed in the city, he found it hard to fit the feverish Rome of reality, with its political squabbles, to the lofty ideals he had conceived.

He began to practice law, but he abandoned it after the failure of his first case and went to study philosophy under Siro the Epicurean at Naples. He found himself in some of the most brilliant company of the day.

But neither was he destined to be a philosopher. The rugged country about Naples; the crags with their goats, the glades, and the waterfalls inspired him to write his Eclogues, his poetry of rural life, which soon attracted wide attention. Maecenas, the prime minister of Octavian, induced Virgil to leave Naples by offering him a villa in his gardens at Rome. There Virgil attended concerts where he heard his own poetry sung to music, and was flattered by the favors paid him. But he was not long satisfied to remain in the noise of Rome, nor did he enjoy the flurry of court life. He soon fled back to Naples, where he found seclusion and leisure. In sight of the endlessly belching Vesuvius, of the tall cliffs and the blue bay, he spent the remainder of his days. Here he wrote the poetry which was to be acclaimed the greatest produced in early Rome.

He lived the life of a countryman, apart from the strife of the period. Already Rome was touched with corruption; but the seclusion of his life combined with the purity of his character long appealed to the imagination of his countrymen. Yet he discerned the currents that molded the lives of the Romans better than those in the midst of the whirl, and in his Æneid he wrote an epic story of Roman grandeur that should live to be conned over by all future generations of Latin students.

It was at the suggestion of his friend, Maecenas, that he undertook the Georgics. The prime minister observed the decadence of agriculture during Cæsar's wars, when the soldiers, occupied in fighting, neglected husbandry. He realized the peril to Roman civilization, and believed that a handbook of agriculture might serve to revive interest in tillage and husbandry. He appealed to Virgil, who responded by writing the Georgics. For several centuries the Georgics were an authentic guide to practical husbandry, and now that Virgil's teachings are long since replaced by more scientific methods, they are still read for their faultless poetry and their charming portrayal of country life.

Four books comprise the Georgics. The first deals with the tillage of the fields, the constellations and the signs of the weather; the second, with trees, especially the vine and the olive; the third, with the rearing of flocks and herds, and the breeding of horses; and the fourth, with the keeping of bees. The devotion of one-fourth the work to bees indicates their relative importance to agriculture in those days. And beekeeping was a large industry. Apiaries that produced thousands of pounds of honey were not unknown, while wax was an important article of commerce, especially from Sicily and Corsica.

Tickner Edwardes recommends the fourth book of the Georgics as one of the best first works for a novice to read. But perhaps to reserve the book until one has absorbed some bee knowledge is better. Then one appreciates its errors and fancies as well as the truth which Virgil utters. And the beekeeper who inclines to poetry has a treat in store for him if he has never read the fourth Georgics.

Bee knowledge had been handed down from bee writer to bee writer, mistakes mixed with facts, without too much observation of the bees themselves. Virgil reproduced most of the errors of Aristotle, and added the current myths of his day, which were to persist for centuries, until such men as Swammerdam dared to cast aside preconceived notions and to go only to the bees for their information.

Virgil spoke often of the kingbee, and believed that honey descended from heaven. He thought the old bees did the work of the hives while the young journeyed to the fields. "The aged have the town in charge, and the walling of the combs and the shaping of the curious chambers; but the young return weary when night grows late. . . . With morning they stream out of their gates; nowhere a lingerer; alike again, when evening warns them at last to quit their meadow pasture, then they seek their home, then they refresh their bodies. . . . Thereafter, when now they are quiet in their cells, silence deepens with night, and kindly slumber overspreads their tired limbs." (1)

But these are only the lesser of his misconceptions. His theory on reproduction, though common then, is highly novel today. "This custom approved of bees may truly awaken thy wonder, that they neither delight in bodily union, nor melt away in languor of love, nor bear their young by birth-throes; but straight from the leaves, from the scented herbage gather their children in their mouths, themselves keep up the succession of king and tiny citizens, and fashion anew their halls and waxen realm. Therefore, although their own life be brief and soon taken to its rest—since to the seventh summer it lasts and no further—yet the race abides immortal. . . . "

He gives instructions for generating swarms of bees from the decaying carcasses of animals, "when the whole breed of bees shall fail of a sudden." A calf is killed, its flesh beaten to a pulp, and it is left to decay. "The humors heat and ferment in the soft bones, and creatures wonderfully fashioned may be seen . . . soon they stir with rustling wings. . . . "

Some writers have referred to the Georgics as evidence that there were originally two breeds of bees in Italy. Virgil says, "There are two kinds, this the better, fair of feature and splendid in flashing scales; the other, rough-coated and sluggish, crawls meanly with his breadth of belly . . ." But others say that Virgil mistook the older, darker bees about the hive

(1) All my quotations are from the Eclogues and Georgics of Virgil, translated by J. W. Mackail, Longmans, Green & Co., Ltd., 1926.

for a separate race.

In spite of the myths he propagated, many of the passages bespeak Virgil's familiarity with his bees. What modern writer could give a better description of their spring-time activities than the following?: "When the golden sun has driven winter routed underground and flung wide the sky in summer flight, forthwith they range over lawn and wood, and harvest the shining blossoms and sip lightly of the streams; then glad with some strange delight, they nurture their brood in the nest, then deftly forge the fresh wax and mold the clammy honey."

I like best his tale of the old man of Corycus. His description would fit as well today those rare people whose hobby it is to seek out waste places and to enliven them with a touch of beauty. "I remember how . . . I saw an old man of Corycus, who owned some few acres of waste land, a field neither rich for grazing nor favourable to the flock nor apt for the vineyard; yet he, setting thinly sown gardenstuff among the brushwood, with borders of white lilies and vervain and the seeded poppy, equalled in his content the wealth of kings; and, returning home when night was late, would heap his table with unbought dainties. The first roses of spring, the first apples of autumn he would gather; and when even yet the frost of bitter winter cleft the rocks and laid an icy curb on the running waters, already he plucked the soft-tressed hyacinth, chiding the late-lingering summer and the west wind's delay. So likewise was he the first for whom the bees' brood overflowed in swarming multitudes, and the frothing honey drained from the squeezed combs; lime trees were his, and a wealth of pine . . . "

But to appreciate the Georgics, read the whole of them. Procure a copy, allow the gentle Neapolitan poet to transport you back twenty centuries to the quiet of his orange groves, and there listen to his song of the "tending of fields and flocks and trees."

Color Schemes, Gingerbread and Honey

(Continued from page 233)

wheat flour in which you have carefully blended one-half teaspoon salt and one-half teaspoon soda. Mix carefully, then add one-half cup nut meats (chopped). Place in well-buttered loaf pan, let stand three-quarters of an hour, then bake in a slow oven until done, which is usually about thirty-five minutes.

Rhubarb Delight—Our family always rejoice in the advent of rhubarb. (See American Bee Journal, May, 1928, for honey recipes with rhubarb.) One of our favorites is honey delight. To one cup boiling water add three cups pink, tender rhubarb cut in small pieces and one-half cup minute tapioca. Cook thirty minutes, or until rhubarb is soft, stirring frequently. Remove from stove and add one and one-fourth cups honey and one-half teaspoon salt. Stir well and chill. Serve with whipped cream and a honey drip.

Rhubarb Jello—To three-fourths pint of boiling water add one package strawberry jello and put to cool. Cut one pound of pink rhubarb in inch pieces and gently parboil in just enough honey to partially cover. Stir occasionally to keep from sticking, until rhubarb is all cooked, but unbroken. When jello begins to thicken, fill eight or ten small moulds one-half full, add rhubarb pieces and fill moulds with remainder of jello. Chill until firm. Serve with whipped cream wth a drizzle of honey over it.

Oh, Hum, I Think the Jay is Right

By Charles Zick

Seems to me Jay Smith and Allen Latham are having quite a time over that stinging queen question.

I will not argue with either, as no queen has ever taken me for a laying queen—or virgin, for that matter.

But, as Mr. Smith says, "if you only believed all you hear about bees," you wouldn't know whether a colony contained all queens, drones, or workers.

I caught my first swarm and hived them in a box, and from that time until the present I have been told all about bees.

After I bought my first movable-frame hive I was told I would find the queen-cells on the seventh frame from the left-hand side of the hive. But from lack of education (I suppose), my bees start queen-cells most anywhere on frames that have brood in them. Now this informant had kept bees for ten or twelve years. I don't think he ever saw a queen or queen-cells.

Only last summer a neighbor told me that the young queen always went out with the swarm, as he had watched the drones go back and mate with the old queen; said he had a bee book that said so. After a half-hour talk he said he always clipped the queen's wings to prevent swarming. I suppose he cropped the old hen's wings to keep the little chickens from flying over the fence into the lettuce bed. This man had kept bees for twenty years.

No use to argue, as they had handled bees twice as long as myself.

This is only two "things" I have been told about bees. So I think like Mr. Smith — don't believe all you hear.

Indiana.

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

SWARMING IN COMB HONEY — GLUE FOR LABELS

1. Swarming of bees is a great problem in this locality. What would you recommend doing in the following case?: When the white clover comes on here many colonies begin swarming preparations. When one cuts out the queen-cells of some of these colonies, the trouble begins. More cells are built almost as fast as you can cut them out, and the bees absolutely refuse to store a pound of honey in the supers. (This is in comb honey production.) To shake them in a new hive with full sheets of foundation or to let them swarm means no honey from that colony. I use standard ten-frame hives and only one body for brood in the spring. If two bodies are used for brood rearing in spring and reduced to one at start of flow, a condition like that outlined above will be found. Only some colonies act in this manner.

2. Would like to know the name of a good brand of glue or paste, or how to make a glue or paste that will really hold labels onto tin pails. Have tried Royal glue, Lepage's glue, and a powder especially made for tin, but the labels always peel off in a day or two.

3. Would like your unbiased opinion on the following matter: Many people advocate the use of very large hives. I have a friend who has kept bees successfully for twenty years and depended upon them for a large part of his living. He produces comb honey only, and uses ten-frame hives, with frames only seven inches deep for the brood; only one body per hive. His record of 4x5 sections produced over such a colony is something over four hundred. Could it be that different size hives are needed for different localities? INDIANA.

Answer—1. It is always more difficult to prevent swarming in the production of comb honey than in that of extracted honey. However, a minimum of swarming will take place if the following conditions are kept:

Young queens. If your queens are old and begin to retrench on brood production, the bees will make queen-cells to replace them and swarming will follow.

No drones. If your colonies have considerable drone-comb, they will rear several thousand drones each. The drones are noisy, cumbersome, and are in the way of the bees at the warm hours of the day. Remove the drone-comb and replace it with worker-comb in spring.

Plenty of room for brood. We find the ten-frame L hive too small for most queens. We have some of those hives in our apiaries and it is from them that the most of our natural swarms come. We prefer a deeper brood frame, similar to the old Quinny frame, which is now called the Dadant.

Plenty of room in supers. Sections filled with foundation and as many partly filled sections as you can give them. Be sure they do not have to wait on you for room.

Last and most important of all is plenty of ventilation. Many people do not realize that a crowded hive is uncomfortable for the bees and that queen-excluding honey boards, separators, etc., are in the way of the bees and prevent them from ventilating the hive readily. Don't use any more of those things than you can help.

I was about to forget shade. In June and July the hives that are in the sun become exceedingly hot and are uncomfortable for the bees. They lie out in clusters, indicating that the hive is too warm. Colonies should never be allowed to cluster on the outside; they should have either enough ventilation or shade to enable them to stay in, in the warmest part of the day.

If you follow these suggestions, you will have a minimum of swarming.

2. We do not use glue to paste labels on, but a home-made paste, from flour and water, boiled together till the paste is right. If your labels are too thick they will be more likely to come off than thin ones. Perhaps a trifle of honey in the paste would help it to stick, but we never have any trouble with well made thin paste.

3. Hives should be large enough, not too large. The proof that eight- and ten-frame hives are hardly large enough is to be found in the fact that people often have to add another story for breeding in spring and for food chamber in winter. If you build a barn you should make it large enough to accommodate your stock and to store enough food for them to winter on. We like our large brood chambers, and yet they are not so large as two ten-frame brood chambers of the Langstroth hive.

ADD PACKAGE BEES TO WEAK COLONIES

1. Do you think it would pay to buy one pound of bees to add to each of my five hives in May? Would it strengthen the hives for the basswood flow in July?

2. Due to the fact that there are many places where infection can be gotten in our locality, I am planning to treat each hive for foulbrood by shaking on entirely new frames of foundation. The old brood will be put in one place to hatch and form a new colony to be treated later. (The fact is, I have noticed dead brood which is somewhat grayish white and strings out a bit. It is not plentiful, but enough to scare me as to what it might become. This brood loses its shape after a while and becomes a watery mass at the bottom of the cell. Is that foulbrood?)

3. When would you advise my treating the colonies? I plan to take them out of the winter cases early in May. (The colonies seem to be building up now, if I may judge from number of bees flying.)

4. Could you suggest the cause for my best hive being winter killed? They produced about 106 pounds of honey last year, were chock-full of bees when packed in a two-story hive, and died leaving about twenty pounds of honey in the top story, where I found the remains of the cluster. If anything, they were packed better than the other colonies, which wintered through. Entrance was never totally closed and the bees flew until about February 10. Then they turned up their toes.

NEW YORK.

Answer—1. Yes, it will pay to buy bees by the pound to strengthen colonies in spring, provided you are careful in uniting the bees not to have any fighting. Since you are afraid that you have foulbrood, it may be better to buy two-pound packages and hive them separately, then be sure of some colonies without disease.

2. I would recommend that you send a sample of that dead brood to James Hambleton, Apiculturist, Bureau of Entomology, Washington, D. C., to find out just what it is. They will send you some instructions if it is really foulbrood.

3. If you have to treat colonies, the best time is when the honey crop begins. Then there is no danger of robbing, which would scatter the disease in your apiary, besides perhaps giving it to some neighbor's bees.

4. Of course, I cannot say why your

Not Quantity or Low Price But QUALITY

They may cost a few CENTS more per package; worth several DOLLARS more, is the general opinion of the leading producers of the North. That's why they use 100 per cent our bees and queens.

Mr. R. C. Schurtz, Manager Superior Honey Company of Canada, has used hundreds of packages from many different shippers, including ourselves. After a careful comparison he has decided to use 100 per cent our bees this season, even though they cost more.

Mr. John Graham, President Alberta Honey Producers' Association, has used our bees exclusively for the past eight years. Mr. Graham has had occasion to witness results from other bees shipped to his district, and is pleased with our Service, Quality and Guarantee.

Mr. S. J. McPherson, of Edgar, Mont., has used our bees for some time; also has reports from large shipments going to Fromberg and Bridger, Mont.—all have given complete satisfaction.

No matter where you are in the western half of the U. S. A. or Canada, we can supply you Bees and Queens that will "Pay YOU a profit the FIRST season," not merely build up for winter.

From R. C. Schurtz, Mgr. Superior Honey Co. of Canada

Dear Mr. Wing:— Lethbridge, Alberta, Canada, Feb. 19, 1929.

We appreciate your splendid stock of Italian bees and queens. We have used hundreds of packages of bees from many different shippers in the U. S. A., and wish to say that while your bees cost us a little more than some others, we think they are far the cheapest for us to use, as they arrive on time, in fine cages, with choice queens and bees, and the queens are so nicely arranged for releasing in the hive.

We have found with our short seasons that old bees and old queens, such as we have received from some shippers, are a total loss to us, as they do little more than get built up for winter.

In this part of Canada we have to have bees that will give a good surplus of honey, and be in shape for winter. That is why we are using 100% your bees this season.

Yours sincerely, SUPERIOR HONEY CO. OF CANADA,
by R. C. Schurtz, Manager.

From John Graham, Pres. Alberta Honey Producers' Association

To Mr. J. E. Wing—Dear Sir:— Coaldale, Alberta, Canada, Feb. 18, 1929.

We have bought package bees and queens from you **exclusively** for eight years, and we are well satisfied in every way.

Your queens and bees are, in our opinion, as good as or better than any others shipped to this district. Your packages have a very **small percentage of old bees,** and they build up quickly.

In the past eight years, with one exception, bees have arrived on time.

Sometimes there is some loss in packages, which we know is unavoidable, but at all times you have **replaced losses promptly,** and **without question.** We are indeed pleased at the way you have done business with us, and we hope you give as good service in the future as you have in the past (and we have no doubt you will).

In this country it is a big asset to a beekeeper to know he has a responsible shipper; and we have no reason or desire to change shippers. We and our associates will need 800 to 1000 three-pound packages this year. Yours sincerely, JOHN GRAHAM.

From S. J. McPherson, of Edgar, Montana

Mr. J. E. Wing, Cottonwood, Calif.

Dear Mr. Wing:—Yours of 10th received, quoting prices on package bees.

I will want at least 50 packages, to be shipped shortly after May 1st — possibly 100 packages. Will advise more definitely later on, together with deposit.

We have experienced one of the severest winters ever known in this locality, and I anticipate the beekeepers will suffer considerable winter losses.

You will no doubt be gratified to know that the bees you have heretofore shipped to Edgar, Fromberg and Bridger, Montana, have given complete satisfaction, and come through with minimum loss. Very truly, yours, S. J. McPHERSON.

We give a complete Guarantee with every transaction, covering Safe Arrival and Entire Satisfaction. We also positively guarantee as LOW or LOWER Express Charges as any breeder in California.

Cottonwood J. E. WING California

"Most Northern and Only Exclusive Package and Queen Breeder in California."

best colony died, without knowing all the particulars. But, judging from your account, I surmise that the honey may have been too scattered in the two stories and that some of the bees starved while others had a plenty. But this is only a guess. I have never known bees to suffer from being too well packed, provided they have plenty of ventilation.

TRANSFERRING FROM BUILDING AND FROM BOX

1. How can I get bees out of the wall in a house? I have tried, but never had much success. How would it be to put a bee escape over the entrance and then put a hive in front, introducing a queen after they are in the hive?

2. What is the best way to change bees from boxes into hives? IOWA.

Answer—1. To get bees out of the walls of a house, the easiest way is to take off a little of the siding, after having smoked the bees at the entrance. But if the house is made of brick or stone, then the only way is to arrange to make a hole above the cluster, if their entrance is below, or below it if the entrance is above, and smoke them out, by driving smoke at the lower hole. To use a bee escape would be a slow method and you would secure only the field bees.

2. To transfer bees from boxes or hollow trees into movable-frame hives, we have published, for 10 cents, a pamphlet entitled "Every Step in Transferring Bees." This directs both the transferring of the bees and of the combs that are worth saving and makes a thorough job. But a great many people do not like to do this. Then the only way is to transfer the bees by driving them out, then put a bee escape over the movable-frame hive in which they have been put and place the box-hive or gum over this, so that the bees will take care of the brood till it is hatched. Then the box-hive may be removed. You must, of course, make sure that the queen has been driven out with the bees in the first place and has been put into the movable-frame hive. Do all this during fruit bloom.

HEAVY WINTER LOSS

Last fall I went into the winter with twenty colonies of bees, and they were all in common single-wall, ten-frame hives, had good wind protection and were covered with large pasteboard boxes such as bread is shipped in.

On New Year's day I moved my bees twenty-five miles to a new location, and the bees were all right at that time. New Year's was a rather warm day, for the time of year. My hives all have the common wood cover (no inner cover), and when I nailed the covers on preparatory to moving, I presume that I broke the seals loose around the edge of the covers.

Now on examination I find about half my bees dead and the balance of colonies very weak. Most of the hives have a large amount of ice in them, and bees all dead. I am at a loss to understand just what the trouble was.

At the start of winter I closed the opening at the entrance all except about three inches, as I figured it would help keep the wind out.

Was this entrance closed too much, or was there a draft caused by breaking the seal on the covers? Did moving them in the middle of the winter have anything to do with it? IOWA.

Answer—I think the main trouble was in moving the bees at a time when they could not take a flight shortly afterwards. Their bowels were full and the excitement caused them to eat still more honey—more than they would have eaten if they had been left quiet. There are winters when it is all right to move the bees in the middle of winter, especially if they have had a flight shortly before. But in a very continuous and comparatively severe winter they become just

that much more uncomfortable when disturbed. Don't disturb your bees in cold weather if you can help it.

FIXING UP A POOR JOB OF TRANSFERRING

On last July 1 I was told that I could have a swarm of bees that had clustered on a plant in my small garden. I took a soap box which I had and cut a small entrance on its edge. I had very little trouble getting them into it.

On July 16 I bought a standard hive with comb honey super complete, also a smoker and booklet on how to transfer them. After putting a piece of netting over my head, I proceeded by drumming on box with the new hive on top. In my nervousness I knocked the hive over; the bees started to work on me, so that I had to stop for a while. It took me two days to finish the job.

In transferring the brood comb from box to frames, I made a poor job of this also. The bees built braces in between them, three of them being built solidly together. I did not want to cut these apart, as they had so little comb in their new home that I was afraid sufficient comb for winter stores could not be built so late in season. I fed them about thirty pounds of sugar made into syrup, the last ten pounds given in one feeding; in addition I laid two pounds of lump sugar on top of frames.

On October 20 I made a packing box according to Department of Agriculture bulletin on wintering bees. I packed them with the stuffing from a couch (excelsior), cotton and pieces of woolen goods.

Several days ago, when the temperature rose to 62 degrees, the bees in eleven hives next door to mine were all flying. These bees are in old-fashioned hives with no protection, some split open on sides, others with covers partly open. My bees never came out, so I figured that my bees were all dead. I took a basket and removed the top packing, and on opening the hive I saw the whole top of hive black with bees walking over the lump sugar. I closed it again quickly so as not to disturb them further.

What I want to know is, are they all right? Is it right that they should stay in hive on such a nice day when neglected bees were so active? If they are all right, what can I do in the spring to set these mismade combs right and still get surplus during coming season?

NEW YORK, N. Y.

Answer—You must always smoke the bees before doing any operations in the hive; then they will not be likely to sting you.

Judging from your report, your bees must be all right. The reason they did not fly out when the other colonies did was probably that they are strong enough to remain in the hive when the others think they need a flight. The only reason for their failure to fly, otherwise, would be that the entrance might be clogged with dead bees. But, judging by your report, I believe this is not the case.

As to the straightening of their combs in spring, you should have a few sheets of comb foundation to put in the place of such combs as may be too crooked to be left in. But if you remove the crooked combs, by using a little smoke and brushing the bees off, you can readily straighten such parts of these combs as contain brood and return them to the hive. You should not let any brood suffer, as brood is valuable in spring especially.

USING COMBS FROM EUROPEAN FOULBROOD COLONIES

I have European foulbrood in my home bee yard. Can I use the frames from my home bee yard in my outapiary?

WISCONSIN.

Answer—If you are positively sure that it is only European foulbrood that your bees have, without any American or ropy foulbrood, your combs will be safe to use in your outyard. But if there is any doubt about it, they had best be disinfected.

It might be a good plan to send a sample of the worst of your foulbrood to James I. Hambleton, Apiculturist, Bureau of Entomology, Washington, D. C. He will tell you just what the disease is. Personally, we prefer to melt up the combs and singe the frames before using them again. The combs when fully rendered will make good beeswax.

REQUEENING FROM GOOD STOCK

I have a very good queen and would like to divide the colony artificially, using her queens. Would you advise the use of the following method?:

1. Let the colony naturally build queen-cells and, when they are nine or ten days old, kill the queen. Put five frames of brood in each of two hive bodies, giving each division one of the queen-cells. Fill the rest of the hive with foundation set in frames.
2. Will divisions swarm even if given plenty of room, ventilation, and shade?
3. Is it profitable to produce comb honey on a two-story brood chamber?
4. Could a comb honey super be put on a ten-frame hive body, with a newly divided colony in it, without disastrous results?

MASSACHUSETTS.

Answer—1. I would not under any circumstances kill the queen unless she was losing in fertility, and then I would replace her only towards the end of the season. But the hive may be divided and the queen given to the smaller half, leaving the balance of the colony with most of the brood to rear queen-cells at the time you think best, during the honey season, of course. Then on the ninth day after removing the queen, count the queen-cells and make as many divisions as you see fit, using the queen-cells on the next day, before they become mature enough to emerge. In this way you may make divisions from other colonies and use the queen-cells of that choice queen in them. If the divisions are made on the ninth day and the cells given them on the tenth, they will be accepted.

2. Divisions are not likely to swarm, unless they are exceedingly strong in flying bees, if they are properly handled.

3. Producing comb honey on a two-story brood chamber, it is best to follow the Dr. Miller method: remove one story with the combs containing the least quantity of brood, then put on the supers.

4. No disastrous results would come from putting supers on a divided colony, but they would probably fill but few sections unless very strong or unless the season was very good.

PREPARATIONS FOR MOVING FIVE HUNDRED MILES

I desire to move my apiary—twenty-two colonies—from Washington, Kansas, to Scottsbluff, Nebraska, about five hundred miles, the first of March. I think freight is better than truck; the rate is $3.44 a hundred pounds for colonies, $1.72 per hundred pounds for combs, and $1.20 for hives knocked down, so it will be advisable for me to take out all but combs having brood, leaving about eight or ten pounds of honey and leaving perhaps three or four frames to the hive. These I could spread one-half or three-fourths of an inch to admit more of the bees clustering over the brood, nailing cleats between the combs. They have the full inch entrance. Shall I remove the cover entirely, keeping them imprisoned by screen wire only? Will that leave them open too much?

I would tack cards on the hives, "Shelter from sun and wind; stand lengthwise of car." There will be one transfer from car to car, and the trip is said to require about four days. I could not sell them for more than $3 or $4, and $70 or $75 ought to move them. They have good combs, well wired and well drawn. KANSAS.

Answer.—If I had to move those bees, I would not spread the brood, for it may get chilled if too much spread, as the bees

often scatter about the hive, owing to the excitement. But I would give some screen space, say a couple of inches across the top of the hive, making honey boards purposely for this. In warm weather, if the bees were shipped at a later date, I would give a screened space of about the half of the top. Ordinary covers should be shipped separately. No screen should be put over the regular entrance, because the bees are in the habit of going out and in at that spot and they would probably clog it and die there.

The important thing is to make preparations against damaging the screens. Where there is a large screen, we generally protect it with a cross board, placed so as to prevent anything from falling on the screen.

Your method of leaving only the brood combs in the hive will make for safe transportation, because there will be plenty of room for the bees to cluster away from the brood if they feel too warm at any time.

ORNAMENTALS FOR HONEY

Our town is putting into effect the coming spring a plan to improve the looks of the streets by not only getting the people to plant trees, but also plant a lot themselves. You have, no doubt, a good knowledge of what trees we can plant here. Which kind of tree would you recommend to be of the most benefit to us beekeepers?

The trees mostly planted are Manitoba maple, cottenwood, ash, elm. Linden trees have not been planted yet to any extent in Saskatchewan. There are also Russian poplar growing well, though they are not favored much on account of the very soft wood they have. Then there are the different kinds of willows.

The Manitoba maple comes out very early in spring and should be quite a help to the bees in starting brood rearing, but I do not see the bees working much on them.

Do you know of other trees that would grow with us in the Northwest here beneficial to beekeepers?

SASKATCHEWAN.

Answer—According to Pellett, the Caragana, or pea tree, a Mongolian tree, is very good for both pollen and honey and will grow in your region. They are grown mainly for windbreaks. They are small trees. Caragana arborescens grows about twenty feet high and is recommended.

Basswood or linden is a very good tree for shade and ornament. It is also excellent for honey, and its honey is of fine flavor, especially if it is harvested with clover or alfalfa honey, to which it imparts a special odor. I do not know how well it succeeds in Saskatchewan, but if it can stand the climate, it is a most desirable tree.

TRANSFERRING FROM HIVE TO HIVE

I have several colonies of bees that are in undesirable hives. I want to transfer to new hives. Would this plan be good for a new beginner? Put the old hive with the bees in it on top of new hive and smoke the queen down in new hive and put a queen excluder between upper and lower hives. The combs in the old hives are so crooked that it would not be advisable to put the old frames in new hives, but I wish to save the brood in old hive, so I thought that maybe this upper plan might work.

In what time of year would you advise me to do this work, in this state?

KANSAS.

Answer—Yes, your plan is all right to transfer the bees and not lose the brood. When the brood is all hatched out you can cut the combs out of the old hive and use the good, straight worker-combs if they are not too old.

The best time to do this is at the time of fruit bloom, when the bees already find some honey and yet the hive is not too heavy.

Bees For the Honeyflow

(Continued from page 230)

ing or to see strong colonies during a good honeyflow doing nothing in the supers simply because conditions are not such as to make the storing instinct dominant.

So far as the skill of the beekeeper is concerned in the production of the crop of honey in a given location, every manipulation of the season should be directed (1) toward securing the greatest possible number of vigorous workers at the proper time, and (2) keeping the entire working force of each colony together and contentedly at work throughout the given honeyflow.

Securing Workers for the Honeyflow

The management directed toward securing workers for the honeyflow begins during the previous late summer and early autumn. It includes: (1) Providing favorable conditions for the production of the bees that constitute the winter colony; (2) conserving the energy of these bees during the broodless period of winter, when they cannot well be replaced by further brood rearing; and (3) building up the population of the colony after the adversities of winter, so that the maximum strength is reached at about the beginning of the main honeyflow.

The function of the beekeeper is first to see that each colony is in normal condition and headed by a good queen in time to produce the bees that form the winter colony, and then to supply any deficiency in food, protection, and room for both brood rearing and stores that may exist at any time during the three periods mentioned above.

Food, protection, and room are the three requirements for colony existence and prosperity. Most failures to have colonies profitably strong at the beginning of the honeyflow are due to negligence on the part of the beekeeper in supplying, in advance of the needs of the colony, any deficiency that may occur in one or more of these requirements.

MEETINGS AND EVENTS

Current association meetings and organization notices are published in this department each month. Secretaries and other officers of organizations who wish publicity here should make sure that notices are sent in before the fifteenth of the month preceding publication. Frequently notices are received too late for use and consequently do not appear at all.

Texas Beekeepers' Association, April 5-6, 1929

The spring meeting was called in San Antonio. Beekeepers representing nearly three-fourths of the honey production of the state were present. These men met for three separate purposes: The first was the welcome and to thank the Kellogg Company through Miss Mary I. Barber for the advertising which the company has been giving to honey. Miss Barber in her well executed demonstrations told what the Kellogg Company was trying to do for the beekeepers, of the value of honey as a food, its use in connection with foods prepared by her company, and of the return which this campaign had brought to the company to repay them for their labors. It is to be said that every beekeeper was encouraged by these talks and will be a better honey producer for having attended this meeting.

The second purpose of the meeting was to excite an interest in obtaining a greater amount of state aid for the beekeeping projects. Dr. F. L. Thomas and S. E. McGregor, representing the inspection service, told of their needs and their accomplishments. They reported that the per cent of foulbrood in the state was very much decreased. Mr. T. W. Burleson spoke from the standpoint of a long-time beekeeper. He told what he had accomplished by the aid of the inspection force, and stated that his prosperity as a beekeeper depended on the activity of the inspectors. Mr. Fred Malley, who was state entomologist when the first foulbrood work was done, gave a very interesting talk on the inspection service.

The third purpose of the meeting was to confirm the standing of the Texas association with the American Honey Producers' League, the Southern States Federation, and to commend the work of the Honey Institute. Mr. Burleson gave a very detailed and enthusiastic report of the Sioux City meeting of the League. The League association membership cards were given out to those who had paid their dues to the association for the year 1929.

At the annual roll call for crop conditions it was very gratifying to find that everyone present reported good prospects for a honeyflow, honey plants in good shape, all colonies strong with considerable stores, and that there was no stock of old honey on hand. This was the largest and most promising report obtained at the spring meeting for many

years. Dr. C. S. Phillips gave a very interesting talk on attempting to grow sweet clover in Texas in the early '70's, and told the story of bringing the first "patent gum" to the Brazos Valley.

The resolutions committee returned a very elaborate report. Resolutions of thanks to those who had made the meeting possible, to the Kellogg Company, Miss Barber, and to the newspapers and beekeeping magazines were given. Resolutions asking the state for aid on beekeeping appropriations and legal aid were passed. The most noted resolution was one commemorating the death of W. H. Laws.

The annual meeting was called for Monday and Tuesday of the short course at College Station this summer.

H. B. Parks,
San Antonio, Texas.

Gwinn Stresses Quality Honey at Sheboygan Meeting

James Gwinn, honey market agent of the Wisconsin Department of Markets, addressed a meeting of the Sheboygan County Beekeepers' Association at Plymouth, Wisconsin, March 27. Gwinn, who is also engaged in honey production, was for a number of years president of the Wisconsin Beekeepers' Association.

In his address Mr. Gwinn stressed the importance of marketing honey of the best quality, thereby winning and holding the confidence of the consumers. In the different bloom seasons of dandelion, clover, fruit blossoms, basswood and buckwheat it is necessary to watch the extracting processes with care, as purchasers often express their desire for one or the other, according to their individual tastes.

The dark color of honey, noticeable in the season of buckwheat bloom, does not signify that all honey of a dark shade is in that class, as the bees gather nectar from the blossoms of weeds and wild flowers that produce a similar shade in the extraction. He said that this was true when the bees sip from arnica, which thrives in swamps, so that while the light-colored product is viewed from the standpoint of being most desirable by purchasers, the fact of quality cannot be properly determined because of color.

Honey, the speaker stated, has but one competitor in the food required to build up the human system, which is milk. Honey contains lime, iron, protein and other elements essential to the body, and its combination offers a predigested food that makes for health, the value of which is not sufficiently known or recognized.

In the matter of fruit preserves, Mr. Gwinn stated that in cherry canning the use of honey is very small. Experiments have determined, however, that a more delicious preserve results with honey sweetening and that it has been learned that cherries will not lose their color as is the case when sugar is used. He stated that the cherry canning industry at Sturgeon Bay would make an experiment with honey sweetening in their preserved product next season.

A pea cannery in the southern part of the state will use honey instead of sugar in a portion of its output the coming season, it was stated. Bakeries are also beginning to use honey to a greater extent, while the same is true in the cereal industry.

It was decided at the meeting, following Mr. Gwinn's address, to hold another meeting in the early part of May, to make arrangements for holding a summer picnic and to definitely fix the date and place for the outing. It is proposed to hold a picnic to which the public will be invited.

Officers of the Sheboygan County Beekeepers' Association are: Chris Schmahl, Elkhart Lake, president; L. T. Bishop, Sheboygan, vice-president, and Emil Langkabel, Plymouth, secretary-treasurer.

Patterson President of Tri-County, Wisconsin, Association

Charles Patterson, West Raymond, Wisconsin, was elected president of the Tri-County Beekeepers' Association at its annual meeting here recently. Other officers elected include Charles Broman, Bristol, vice-president, and Henry Menhause, Bristol, secretary-treasurer. The association is composed of beekeepers in Racine, Kenosha and Walworth counties.

J. W. Stine Appointed Police Judge

J. W. Stine, well known beekeeper of Burlington, Iowa, has been appointed judge of the police court by the Burlington city council on recommendation from Charles G. McElroy, superintendent of the Department of Public Safety.

Judge Stine still expects to continue in beekeeping and will run at least three yards. He is interested in determining the comparative value of the different races of bees and is trying Caucasians and Carniolans, in addition to the Italians.

Lenawee County, Mich., Meets Dollar with Dollar for Inspection

That the Lenawee County Beekeepers' Association of Michigan believes in state inspection for American foulbrood is evidenced by the fact that members of the association are subscribing funds to meet public moneys, dollar for dollar. Over $400 has been raised in the county to supplement state funds. Subscriptions varied from $1.00 to $35.00.

Amendment to Canadian Regulations on Shipments of Live Bees

Through L. T. Floyd at Winnipeg and H. Baboury, deputy postmaster general, at Ottawa, it is learned that the Canadian postal regulations are amended to permit packages of honeybees being shipped through the mails when fed on sugar syrup.

The decision of the department to change the regulations is the result of representations made by the Manitoba Beekeepers' Association at its convention in Winnipeg last January. This change brings the Canadian regulations into conformity with those of the United States.

Rev. Ben Hill Passes On

Missouri beekeepers have lost a very dear friend in the death of Rev. Ben Hill. He often attended our bee meetings and helped greatly in getting our bee law passed. In 1927 and 1928 he was a member of the house of representatives.

One by one the old bee men are passing. I used to think of all bee men as true Christians, and in over fifty years of beekeeping I have yet to find a successful beekeeper who is not a Christian and a splendid man.

Irving E. Long,
Marcellus, Missouri.

Honey Producers Contemplate Better System

The Western Honey Producers' Exchange, H. E. Rice, Cedar Hill, New Mexico, chairman; W. H. Kendall, Montrose, Colorado, secretary, are considering the plan of a bonded warehouse, to be located at Pueblo, Colorado, which would take care of the product, charging 5 cents a crate for loading and unloading, 4½ cents for storage, per case. In this way the honey could be graded, properly prepared for market, and the sales made more readily, and incidentally bring a better price.

J. B. D.

Car of Honey for Hamburg

A car of extracted honey was loaded at Burley, Idaho, recently by Frank Beach and F. G. Butler for shipment to Los Angeles harbor. It is packed in cases holding two five-gallon cans, and the final destination of the shipment is Hamburg, Germany.

Beach, who is president of the Idaho Beekeepers' Association, states that this car about cleans up the honey remaining in this district.

Bees, declares the Idaho president, are getting out into the open and it looks as though winter losses are light.

CONTINENTAL HONEY CANS

Your customers will like these clean, bright, tight Continental Cans and they will help you sell more Honey. Complete information, prices, terms and samples may be secured through any of the distributors listed below or from any of our offices.

The Brock Store
Decatur, Ind.

A. G. Woodman Co.
Grand Rapids, Mich.

Carl F. Buck
Walla Walla, Wash.

MountainStatesHoney
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Boise, Idaho

Colorado Honey
Producers Ass'n
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Lone Star Bee
Supply Co.
San Antonio, Tex.

Superior Honey Co.
Los Angeles, Calif.
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Sioux City, Ia.
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Co.
Winona, Minn.

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Sioux Honey Ass'n
Sioux City, Ia.

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4622 West North Avenue, Chicago, Ill.

DETROIT JERSEY CITY LOS ANGELES
E. ST. LOUIS CINCINNATI

Crop and Market Report

Compiled by M. G. Dadant

For our May report we asked questioners to answer the following questions:

1. Winter losses.
2. Condition of bees.
3. Honey plant prospects.
4. Much increase being made.
5. Amount of crop, if any, so far.

WINTER LOSSES

As would be expected after a long winter without any breaks and warm days so as to allow flights of bees, there has been a tendency of heavy losses of bees throughout the northern half of the country. This is especially so with outdoor wintered bees, of course, and with those which were not provided with ample stores and plenty of protection. The central West seems to have suffered the most from winter losses in the hands of inexperienced beekeepers, as the New England States and New York seem to have had a little more moderation in the weather.

Where bees were sufficiently protected, however, the loss has not been excessive, ranging from 2 per cent to 10 per cent, according to circumstances, and cellar wintered bees, of course, have come through in very nice shape.

There have been reports of unsheltered bees with losses as high as 25 per cent to 75 per cent, so that many beekeepers will have all they can do to make up the winter losses during the coming season.

Throughout the southern half of the country, the losses have been nominal, running from 2 per cent to 10 per cent in ordinary cases.

In the intermountain territory, losses have not been excessive except where the bees were not properly protected, as is the case in the central West. We believe, however, the larger percentage of the bees in the intermountain territory were cared for by experienced beekeepers, who were able to give them proper protection and proper food.

In California the losses have been excessive because, mostly, of starvation and by a very inclement spring.

In the Canadian provinces losses do not seem to have been excessive. Here the wintering is mostly on a scientific basis and losses range from 5 per cent to 10 per cent.

CONDITION OF BEES

Bees came through the winter generally in a weakened condition on account of the very prolonged cold weather. However, the season has been propitious in most sections and the warm weather has stimulated early spring brood rearing, so that the bees have come up faster than is usually the case in the early spring. All in all, of the bees that survived, the condition is probably slightly above normal in most sections. Ohio reports conditions somewhat below normal, as does Illinois and Iowa in some sections. Kansas and Oklahoma report bees somewhat below normal in condition, as do some the intermountain states. In California bees are very much weakened, as the early brood rearing flows have not been satisfactory.

HONEY PLANTS

The entire north half of the country has had wonderful snows the past season. As a result the eastern half of this section all report their honey plants as coming through in most excellent fashion. In fact, it looks like another old-time white clover flow was in prospect, as the white clover region, with but few exceptions, reports unanimously that honey plant conditions are 100 per cent or far better than this. Ohio seems to be on the exception, with a few scattering locations in Illinois and Iowa reporting the white clover plants as not up to ordinary status.

The intermountain territory has had satisfactory snow, but conditions so far are not enough advanced so as to give a definite report. There are some reports, however, of excessive plowing under of sweet clover and alfalfa, which will somewhat reduce the acreage.

In the South, plants look very good, indeed, at normal and perhaps somewhat above. This is true also of Texas. New Mexico and Arizona are reporting a little too dry weather to be satisfactory.

Reports from California would indicate that there has not been sufficient rainfall there, although the most recent reports we have are that rains have fallen and now it appears that perhaps there will be a better flow than there has been for three or four years, although less bees to gather it.

INCREASE

Almost without exception, no increase was reported of any consequence. Of course, most beekeepers will increase sufficiently to make up their winter losses, and this has accounted somewhat for the heavy demand very late in the season for package bees. Many beekeepers are ordering to recoup the winter loss. There has, of course, been some increase in prospect in some of the white clover areas because of the excellent prospects for a white clover flow. We believe also there is a slight increase in some of the intermountain sections on account of the fact that the honey crop for the past year has been so thoroughly disposed of.

CROP SO FAR

There has been no crop to report so far except in some of the extremely southern locations. Georgia is reporting a very heavy flow, with prospects for a continuance if the weather is satisfactory. In the Atlantic seaport states there has been very fine stimulative flows and prospects look exceedingly good. The same is true of Alabama, Mississippi, and Louisiana, although no surplus honey has yet appeared.

In California the early stimulative flows have been disappointing on account of the weather.

All in all, condition of bees and amount of loss would make this season somewhat under par. Honey plant conditions, however, will average perhaps a little above par, and conditions as a whole are encouraging.

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Ads as small as ten words, costing only 70c, are accepted here, but our regular advertisers have demonstrated that it pays to tell more. Use enough words to thoroughly describe your offering and you'll sell quicker. Address all orders or inquiries to the Classified Advertising Department of the American Bee Journal, Hamilton, Illinois.

Will sell your Honey, Flowers, Poultry, Fruit, Pets (as rabbits, etc.) and more . . . . Is your ad here?

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisements of used bee-keeping equipment or of bees on combs must be accompanied by a certificate of inspection from an authorized inspector.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

BEES AND QUEENS

CAUCASIANS—Unequalled honey producers; do not swarm readily; very prolific and gentle. Northern bred queens ready in June. Untested: 1 to 10, $1.50; 11 to 25, $1.35; 26 to 50, $1.25; 51 up, $1.15. C. A. Bird, Odebolt, Iowa.

RUSCHILL'S Iobred Italian queens possess the qualifications that please customers. Untested queens, $1.00 each. Ready about May 25. Charles L. Ruschill, Colfax, Iowa.

GOLDEN ITALIAN queens of highest quality and most careful breeding. Producing large, hustling bees, very gentle and beautiful. Yellow to the tip. My queens are from a proven honey producing strain. Select untested, $1.00 each; 6 to 12, 90c each; 12 or more, 80c each; 100 for $70.00. Select tested, $2.50 each. Safe arrival and satisfaction guaranteed. Try my goldens; they will please you. W. C. Wright, Holt, Mo.

SERVICEABLE, money worth Italian queens. Select untested $1.00 each, $10.00 per dozen, $75.00 per hundred. Circular free. R. V. Stearns, Brady, Texas.

PACKAGE BEES AND QUEENS—Golden and three-banded Italians. Our standard package—one frame of sealed brood built on full sheet of foundation, three pounds of bees and select young queen: 1 to 5, $4.50; 6 to 10, $4.25; 11 to 24, $4.00; 25 or more, $3.80. Additional pound or frame to package, 65c. Untested queens: 1 to 5, 90c; 6 to 10, 85c; 11 to 24, 80c; 25 or more, 75c. Prompt service and satisfaction or money refunded. Moncla Bros., Moncla, La.

THREE-BANDED Italian bees and queens, ready June 1. Highest grade untested queens, $1.00 each; six, $5.00; twelve, $9.00; fifty, $35.00. Two-pound package with queen, $4.00 each. Three-frame nuclei with queen, $5.00. Full colonies. I guarantee safe arrival anywhere, no disease, and a square deal to all. Nineteen years in the game. A. E. Crandall, Berlin, Conn.

GOLDEN ITALIAN QUEENS—Producing large, beautiful bees, solid yellow to tip. Queens, untested, $1.25; select untested, $1.50; select tested, $3.00 each. Ask for circular for package bees. Dr. White Bee Co., Sandia, Texas.

CHOICE, bright Italian queens that are a pleasure to work with and you will be proud to own. Requeen with stock that has been bred and selected in the North the past 26 years for good wintering, hustlers, gentle and fine color. One queen, $1.00; dozen, $10.00. Breeders, $10.00. Emil W. Gutekunst, Colden, N. Y.

TWO-POUND package of bees with young queen, $2.40 each; three-pound package, $3.25 in quantities. See my large ad on page 215. H. E. Graham, Box 735, Cameron, Texas.

FOR SALE—Some fine yellow Italian queens, untested, $1.00 each. Ready to mail May 20. Satisfaction guaranteed. J. F. Michael, R. 1, Winchester, Ind.

PACKAGE BEES — Pure Italians. Two pounds with queen, $3.25. Inspection certificate. The Alexandria Apiaries, "In the Heart of Louisiana," 1415 Sixth street, Alexandria, La.

"SHE-SUITS-ME" Italian queens. One 80c; six, $4.00. Send for circular. See advertisement in January issue. Allen Latham, Norwichtown, Conn.

IF you want bees that are gentle to handle, good honey gatherers and beautiful to look at, my strain of golden Italians will please you. Prices, Untested, $1.05; six, $5.50; twelve to forty-nine, 80 cents. each; fifty or more, 75 cents each. Tested, $1.50 each. Health certificate, safe arrival and satisfaction. Hazel V. Bonkemeyer, R. 2, Randleman, N. C.

SIMMONS ITALIAN QUEENS—Ready May first. One, $1.00; six, $5.50; twelve, $10.00. Long distance orders by air mail. Get our prices on nuclei. Fairmount Apiary, Livingston, N. Y.

FOR SALE—Eight-frame colonies Italian bees with queen on Hoffman frames; $9.50 per colony f. o. b. here. No disease. Wilmer E. Clarke, Ward 2, State Hospital, Binghamton, N. Y.

FOR SALE—Italian bees and queens. Nothing but the best queens; $1.00 each, $10.00 per dozen. One pound of bees with queen, $2.10; two pounds of bees with queen, $4.00. All charges paid to your P. O. Liberal discount on large orders. Graydon Bros., R. 4, Greenville, Ala.

FOR bees guaranteed to please, see display on page 217. N. B. Smith & Co., Calhoun, Ala.

COMBLESS packages bees, shipped on sugar syrup with Italian queen. Two-pound package, $3.50; ten or more, $3.00 each. Three-pound package, $4.25; ten or more, $3.75 each. Health certificate attached. Safe arrival guaranteed. Ten per cent with order, balance before shipping. John A. Williams, Box 178, Oakdale, La.

PACKAGE BEES—Gentle, hardy northern. Write for reduced, bargain prices. Van's Honey Farms, Hebron, Ind.

TWO-FRAME NUCLEI Italian bees and young queen $3.50, early spring delivery. Bees are state inspected. Health certificate furnished. J. G. Prosser, Fort Dodge, Iowa.

QUEENS—Our queens sure have "IT" when it comes to producing workers that make fine comb honey. Three-banded Italian and Caucasians, $1.00 each; twelve for $10.00. We pay postage. Safe arrival guaranteed. We are now booking orders for spring delivery. James G. Johnston, 99 Superior St., Sharon, Pa.

QUEENS AND BEES—Italians, golden and Carniolans. Tested, $1.00; untested, 75c each. Bees, $1.00 per pound. Satisfaction guaranteed. C. B. Bankston, Box 65, Buffalo, Texas.

REACROFT selected Italian queens: One 90c; ten $8.50. Quantity prices on application. Satisfaction guaranteed. George H. Rea, Reynoldsville, Pa.

GOLDEN ITALIAN queens, producing golden bees; very gentle, good honey gatherers. State inspected. Tested, $1.50; select tested, $2.50. Untested, $1.00; six for $5.40; twelve or more, 80c each. After June 30, 10c less each on untested, 25c less each on tested and select tested. D. T. Gaster, R. 2, Randleman, N. C.

IMMEDIATE SHIPMENT — Package bees and queens. Send us that rush order. We will not disappoint you in service or quality. Our packages have made record yields for others; they will do the same for you. It is not too late to get a good crop from packages if you get them now. Do not delay. One two-pound package, $3.25; one three-pound package, $4.25. One untested queen, $1.00. Write or wire for circular and complete price list; also prices on quantities. Safe arrival and satisfaction guaranteed. Health certificate with each shipment. J. M. Cutts & Sons, R. 1, Montgomery, Ala.

QUEENS AND PACKAGE BEES—Prices reasonable. Safe delivery. Louisiana Southern Bee Farm, Baton Rouge, La.

SAME OLD PACKAGE—Two pounds Italian bees, two combs (Hoffman frames), young Italian queen laying, to you. Same old price—six dollars per single package. Same old terms—one-fifth down to book order. May delivery, f. o. b. Same old Jes Dalton, St. Francisville, La.

BRIGHT Italian queens, ones that are guaranteed to please you or your money refunded. Untested, any number, 75c each. Safe arrival guaranteed. Honoraville Bee Company, Honoraville, Ala.

PETERMAN'S select Italian queens, also package bees. Queens: 1, $1.00; 6, $5.50; 12, $10.00; 25, $20.00; 50 or 100, 75c each. H. Peterman, Lathrop, Calif.

LISTEN—If you desire to purchase high grade Italian bees and queens, write The Carolina Bee Co. for circular and price list. W. O. Curtis, Manager, Graham, N. C.

WARD'S bright Italian queens $1.00 each, $10.00 dozen, May and June. Three-pound packages, $4.25. C. W. Ward, LeRoy, Kansas, R. 1.

DIEMER QUEENS—Bright three-band Italians, before June 15, $1.00 each; after June 15, 75 cents each. Mailed to you in my double-barrel introducing cage. Write for circular giving price of package bees. J. F. Diemer, Liberty, Mo.

CYPRIAN QUEENS—Untested, $1.50 each. E. J. Vaught, 3435 Chestnut St., Oakland, Calif. All shipments by air mail starting about March 10.

GOLDEN Italian queens, untested, $1.00 each; twelve, $9.00; six, $5.00. Breeders, $5.00 to $10.00. Tested, $2.50 each. Thirty years' a golden breeder, and they stand second to none. J. B. Brockwell, Barnetts, Va.

CHOICE queens by return mail. Three-banded Italian queens, each, 80c; tested, $1.00 each. Jul. Buegeler, Alice, Texas.

FOR good queenbees for April, May, June, I refer to my ad in March issue, page 144. Victor Prevot, Mansura, La.

PACKAGES hybrid bees with Italian queens, 2½ lbs. $3.00; quantities, $2.80. Herron & Stone, Millerton, Okla.

ITALIAN BEES AND QUEENS—Two-pound package without queen, $3.00. Untested queen, $1.00; tested, $1.50. Add price of queen wanted. Safe arrival after May 10. Birdie M. Hartle, 924 Pleasant Street, Reynoldsville, Pa.

LEATHER COLORED ITALIAN QUEENS—$2.00; after June 1, $1.00. Tested, $2.00.
A. W. Yates,
15 Chapman St. Hartford, Conn.

GOLDEN Italian queens and nuclei (or package bees) for 1929, the big, bright, hustling kind (the kind that gets the honey). Satisfied customers everywhere. Untested, $1.00 each; 6, $5.00; 12, $10.00; 100, $75.00. Tested, $2.00 each. Two-frame nuclei or two-pound package with queen, $4.50 each; ten or more, $4.00 each. Safe arrival guaranteed. Health certificate furnished. E. F. Day, Honoraville, Ala.

HIGHEST grade Italian queens—Tested, $1.50; untested, 75 cents. Package bees, one pound, $1.50; two pounds, $2.50; three pounds, $3.25. Have had no disease. State inspection certificate with each shipment. Safe delivery guaranteed.
T. L. Davis, Buffalo, Leon Co., Texas.

FOR SALE—Two-pound bees, young three-banded Italian queen, $3.00. Health certificate with each shipment. Satisfaction guaranteed. Write for full particulars. J. L. Leath, Corinth, Miss.

THRIFTY Caucasian queens from daughters of Imported mothers. After April 15: One, $1.50; twelve, $14.00. Safe arrival. Tillery Bros., Greenville, Ala., R. 6, U. S. A.

FOR SALE

FOR SALE—100 colonies Italian bees, guaranteed free from disease. 1235 Lincoln Way West, South Bend, Ind.

FOR SALE—About 27 colonies hybrids and Italians, partly in 1½-story Modified Dadant and partly in 2-story, 10-frame Langstroth, and other supplies, including 100 No. 1 comb honey supers. Since I cannot be there and the purchaser must come and get them, I offer everything at the bargain price of $225 cash. Never any disease, but offered subject to inspection. See J. B. Wilmer, Honey Creek, Wis.

BEST cash offer takes all my bee supplies. Crate yourself. Phone if interested. Ben Steen, Manning, Iowa.

FOR SALE—No. 1 buckwheat comb honey, $3.00 per case; No. 1. amber, $3.50. Six case carriers. H. G. Quirin, Bellevue, Ohio.

FOR SALE—100 used ten-frame hives, excluders, etc. Herbert Kietzer, Vernon Center, Minn.

FIVE-GALLON used cans. Special price 25c case of two, f. o. b. New York, until stock exhausted; good condition. Order quick to secure. Arthur H. Hoffman, Inc., 1043 Wyckoff Ave., Brooklyn, N. Y.

FOR SALE—Location. One of the best locations in southern Minnesota, for an apiary, with miles of basswood and clover; at edge of city, 20 rods from paved highway. Address owner, Ernest Subac, Austin-Minn.

FOR SALE—Used 60-pound cans, good condition, 30c per case. George Morrison Farm, Manchester Rd., Poughkeepsie, N. Y.

SELL 100 colonies bees in 10-frame dovetail hives; several hundred supers; power extractor; boiler. Taylor's Fur House, Griggsville, Ill.

FOR SALE—450 colonies bees and equipment for comb, extracted or chunk honey, all in good standard eight-frame hives. Located in heart of sweet clover district of San Luis Valley of Colorado. L. W. Howsam, La Jara, Colo.

FOR SALE—Hundred three-story colonies; factory-built hives, full sheets foundation, with honey. L. L. Ferebee, Pineland, S. C.

QUEEN introducing cage, 30c; four, $1.00. See larger advertisement, April number, page 158. O. S. Rexford, Winsted, Conn.

FOR SALE—Golden Italian queens. Only one grade, select. Safe arrival and satisfaction guaranteed. Untested, one, $1.00; six, $5.00; twelve, $10.00. E. A. Simmons Apiaries, Greenville, Ala.

HONEY AND BEESWAX

HONEY (comb and extracted), pure maple syrup, maple sugar and sorghum molasses. Special price to quantity buyers. C. J. Morrison, 1235 Lincoln Way West, South Bend, Ind.

WHITE CLOVER in 2-60, 10c pound. Buckwheat and clover blend, 2-60, 7½c. One-pound sample, 25c in stamps. F. W. Summerfield, Grand Rapids, Ohio.

HONEY FOR SALE—Best quality, lowest prices. D. Steengrafe, 116 Broad Street, New York.

WANTED—Dark honey for bakery. Edw. Klein, Gurnee, Ill.

"CLOVER HONEY—Comb and extracted. Dr. E. Kohn & Sons, Grover Hill, Ohio."

STURDEVANT'S CLOVER HONEY — St. Paul, Neb. Any quantity.

HONEY FOR SALE—Any kind, any quantity.
The John G. Paton Co.,
217 Broadway, New York.

HONEY FOR EVERY PURPOSE—We have it in any amount; light amber and white clover, basswood, sweet clover, buckwheat. Write us what you need and ask for prices. A. I. Root Company of Chicago, 224-230 West Huron Street, Chicago, Illinois.

WANTED—Car lots of honey. State quantity, shipping point and price. Mail sample. Hamilton, Wallace & Bryant, Los Angeles, Calif.

HONEY FOR SALE—All grades, any quantity. H. & S. Honey and Wax Company, Inc., 265 Greenwich St., New York City.

NEW CROP shallow frame comb honey, also section honey; nice white stock, securely packed, available for shipment now. Colorado Honey Prod. Ass'n, Denver, Colo.

HONEY FOR SALE — White and amber honey in 60-lb., 10-lb. and 5-lb. tins. Write for prices.
Dadant & Sons, Hamilton, Illinois.

SHALLOW frame white comb honey and white extracted honey.
The Colorado Honey Prod. Ass'n,
Denver, Colo.

FOR SALE—Northern white, extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

FOR SALE—Our own crop white clover and amber fall honey in barrels and cans. State quantity wanted and we will quote prices. Samples on request.
Dadant & Sons, Hamilton, Illinois.

WANTED—Light honey. Mail sample. Van's Honey Farms, Hebron, Ind.

SUPPLIES

FOR SALE—A quantity of frames 11¼" deep with 1⅜ or 1½" spacing, at $5.00 per hundred; 6¼" deep at $4.00 per hundred. Dadant-Hoffman style. A. G. Woodman Co., Grand Rapids, Mich.

FOR SALE—Foundation, bee brushes, comb honey cartons, feeders, nailed and painted bodies, bottoms, covers, and bodies, veils, sections, a big assortment of frames, excluders, comb and extracting supers k. d., and many other items in good, usable condition. Reason for selling, items no longer listed in our catalog. Prices the lowest anywhere for the value. You can address G. R. Lewis Company, at Watertown, Wis., Albany, N. Y., Lynchburg, Va., Texarkana, Ark., or Sioux City, Iowa.

SAGGED COMBS are result of slackened wires caused by wires cutting soft wood of frames. Use metal eyelets. Per 1,000, 60c. Handy tool for inserting eyelets, 25c. Postage 3c per 1,000.
Superior Honey Co., Ogden, Utah.

FOR SALE—High quality queen mailing cages; also Root's bee supplies. Write for prices. Hamilton Bee Supply Co., Almont, Mich.

ROBINSON'S comb foundation will please the bees, and the price will please the beekeeper. Wax worked at lowest rates. E. S. Robinson, Mayville, Chau. Co., N. Y.

"BEEWARE" and Dadant's Wired Foundation for the Northwest. Catalog prices. F. O. B. Fromberg, Montana. Beeswax wanted. Write for prices.
B. F. Smith, Jr., Fromberg, Mont.

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We buy beeswax at all times and remit promptly.
The Colorado Honey Producers' Ass'n,
Denver, Colo.

MISCELLANEOUS

LEARN from Will Grover, Bristol, Vermont, to find wild bees.

POLICE PUPS—Price $10 and $15. Will trade for pure-bred queens. Pups can be registered. Otto Henkel, Sublette, Ill.

GLADIOLI — Lauber's top-notchers. One hundred bulbs, mixed sizes, $1.50; same collection bulbs labeled, $2.00. Descriptive bulb list free. Harold W. Lauber, Wauseon, Ohio.

FREE—One gallon white paint with $35.00 order for Root bee supplies at regular catalog price. May only. Cash with order. Mail coupon today. A. V. Small, Augusta, Kansas.

MAKE queen introduction sure. One Safin cage by mail, 25c; 5 for $1.00.
Allen Latham, Norwichtown, Conn.

GEORGE S. DEMUTH is editor-in-chief of Gleanings in Bee Culture. Its field editor is E. R. Root. This means a most carefully edited, able bee journal. Subscription price, two years for $1.00. Write for sample copy. Gleanings in Bee Culture, Medina, Ohio.

FOR SALE—We are constantly accumulating bee supplies, slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it.
Dadant & Sons, Hamilton, Illinois.

HAVE YOU any Bee Journals or bee books published previous to 1900 you wish to dispose of? If so send us a list.
American Bee Journal, Hamilton, Ill.

THE DADANT SYSTEM IN ITALIAN—The "Dadant System of Beekeeping" is now published in Italian, 'Il Systema d'Apicoltura Dadant." Send orders to the American Bee Journal. Price $1.00.

WANTED

WANTED—Ambitious single man to work in large apiary for the season 1929. State wages expected, and age. Earl L. Baker, Lake City, Mich.

BEES WANTED—Will trade a Lewis Markle extractor, No. K512, for 32 three-pound packages of young bees and queens, to be shipped May 15. Extractor is as good as new. Milo Keller, Correctionville, Iowa.

WANTED—Experienced man for large apiaries. Give full particulars. Edw. Klein, Gurnee, Ill.

WANTED TO EXCHANGE—Package bees or queens for power saw and adding machine. Give full description and make offer. J. M. Cutts & Sons, R. 1, Montgomery, Ala.

WANTED—Experienced, able-bodied man for extracted honey. State age, experience and wages expected. A. E. Schellhorn, Huntley, Mont.

McGraw-Hill Publishes Useful New Book by Metcalf and Flint

Most Illinois beekeepers are acquainted with W. P. Flint, chief entomologist of the Illinois State Natural History Survey, and with C. L. Metcalf, head of the Department of Entomology of the University of Illinois. "Destructive and Useful Insects" is the title of a 900-page book by these two authors, just published by the McGraw-Hill Book Company, New York.

For practical consideration of both useful and destructive insects this book is of immediate value, and those who have to combat the usual pests of garden and farm will find in it a wealth of practical points to help in control work and in learning the damage and description of the insects which bother.

The injurious insects are considered according to the crop which they affect, and cross indexing allows complete coverage with this classification. The text is easy and understandable and the illustrations quite complete. A minimum of the hard scientific language is one of its welcome features.

The Beekeepers Annual

A copy of the "Beekeeping Annual" for 1929 has recently reached this office. It contains more than a hundred pages of interesting matter bound in paper covers. Copies may be had at 25 cents each from Mr. Herbert Mace, Harlow, Essex, England.

This "Beekeeping Annual" is an unusual publication, containing as it does matter of special interest for the current year. There are pages with rules and blank space for the beekeeper's records for each of the months. Annie D. Betts contributes an extended account of recent scientific advances in the industry. This is followed by an article on bee disease and another on official investigations at the Rothamsted Experiment Station. There are reviews of bee books which appeared during the past year, accounts of shows and meetings, directory of associations, and other matter suitable for reference on the part of any well-informed beekeeper. The bee men of Great Britain are to be congratulated that the interest there is sufficient to justify the publication of such an annual.

The Practical Bee Guide

Many American beekeepers are already familiar with the "Practical Bee Guide," written by Rev. J. G. Digges, editor of the Irish Bee Journal. A new edition has recently appeared. The first edition was published in May, 1904, and from that time the book has enjoyed a steady sale. The present edition is the sixth, making a total of thirty thousand copies which have come from the press.

The present edition has been entirely revised and reset. The pages are larger and the number has been increased to more than three hundred. Ireland may not be a land of large commercial honey production, but her people must appreciate the bees, as is evidenced by the popularity of the Digges book.

The "Practical Bee Guide" is not confined to Old World methods, but space is given to a discussion of American equipment, and American authorities are frequently quoted. We congratulate Editor Digges on the success of his book. In paper covers it sells for one dollar.

Bees Pay for Education

The February Farm and Fireside has a brief story of how the bees are paying for the education of Miss Dorothy Newbauer of Minnesota. Miss Newbauer has been mentioned in these columns as an assistant to Francis Jager in his queen rearing operations.

According to the Farm and Fireside story, Miss Newbauer still has two years in the university before securing her degree in entomology and plant pathology. She is quoted as saying that the bees have paid all her expenses thus far and she expects them to carry her through her entire course.

Sainfoin Seed

Many inquiries have come in asking where sainfoin seed may be obtained for trial purposes. The seed which we have planted was purchased from the John A. Salzer Seed Company, seed growers and florists, La Crosse, Wisconsin. A letter from Kenneth E. Salzer, vice-president, says they have a limited amount of the seed on hand and expect to have more later. It is the best French grown seed obtainable.

STATEMENT OF OWNERSHIP

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of American Bee Journal, published monthly at Hamilton, Illinois, for April, 1929:

STATE OF ILLINOIS, } ss.
County of Hancock, }

Before me, a notary public in and for the state and county aforesaid, personally appeared M. G. Dadant, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Bee Journal, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, rendered by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:

Publishers, American Bee Journal, Hamilton, Ill.

Editor, C. P. Dadant, Hamilton, Ill.

Managing editor, Frank C. Pellett, Hamilton, Ill.

Business manager, M. G. Dadant, Hamilton, Ill.

2. That owners are:
C. P. Dadant, Hamilton, Ill.
H. C. Dadant, Hamilton, Ill.
V. M. Dadant, Hamilton, Ill.
C. S. Dadant, Hamilton, Ill.
L. C. Dadant, Hamilton, Ill.
M. G. Dadant, Hamilton, Ill.
Leon Saugier, Hamilton, Ill.
Joseph Saugier, Hamilton, Ill.

That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages or other securities are: None.

(Signed) M. G. DADANT,
Business Manager American Bee Journal.

Sworn to and subscribed before me this eighth day of April, 1929.

BIRDIE ASH,
Notary Public.

My commission expires March 6, 1930.

AMERICAN HONEY INSTITUTE
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BY
BEE INDUSTRIES ASSOCIATION OF AMERICA
CHAMBER OF COMMERCE BUILDING
INDIANAPOLIS

DR. H. E. BARNARD, PRESIDENT

New Products for Old Uses

Jelly roll is a popular cake. It is made by spreading thin sponge cake with jelly and then rolling the slab into a cylinder which can be served by slicing the roll into half-inch sections.

Bakers have had trouble with their jelly rolls, sometimes because the jelly soaked into the cake, sometimes because the pure food authorities objected to the use of imitation color, which dyed apple jelly to a currant jelly appearance.

From now on bakers will have a new jelly—pure, flavory, appetite appealing—in the honey pectin product which E. W. Stewart & Co., of Chicago, Illinois, are offering their baker customers.

This company is carrying full-page advertisements in the bakers' journals describing honey jelly in words which should build a receptive market for honey at the bakeshop. Honey jelly combines the natural fine flavor of honey with Stewart's fruit pectin. The result is honey jelly, which keeps its rich flavor and consistency under all conditions—never before possible in using strained honey. Now with honey jelly many mouth-watering baking creations may be produced—honey jelly rolls, Bismarcks, filled with honey jelly, cake filling, tart filling, coffee cake topping, etc.

Samples of honey jelly are sent to inquiring bakers and full instruction given for its making.

American Honey Institute has cooperated with the company in developing formulas and will gladly recommend honey jelly roll as an important new item for the retail bakery trade.

Honey Research

The Congress which adjourned March 4 provided funds for beginning research on honey problems which have heretofore been untouched because of lack of funds.

Seventy-five hundred dollars has been appropriated for the Bureau of Chemistry to be used exclusively in the study of some of the pressing problems of the beekeeper and honey jobber.

After several conferences, participated in by the staff of the Bureau of Chemistry, Prof. James I. Hambleton, of the Bee Culture Laboratories, and Dr. H. E. Barnard, president of American Honey Institute, the following projects were outlined for study under the terms of the special appropriation:

1. A study of the acids in honey.
2. The determination of the diastase content of honey.
3. The utilization of undesirable honeys.

As a supplemental study of the second project, some attention will be given to invertase, a constituent of honey of considerable importance, though but little is known of its occurrence in honey.

In studying the utilization of undesirable honeys it is hoped that beekeepers who have on hand quantities of honey which is unsaleable because of strong flavors, or other reasons which because of the nature of the honey crop are not readily controlled, will supply the Bureau of Chemistry with adequate samples of such goods.

Professor James I. Hambleton, in charge of the Bee Culture Laboratories of the Department of Agriculture, will cooperate with the Bureau of Chemistry in collecting honeys of known floral source.

American Honey Institute is in constant touch with the work at Washington and welcomes any suggestion for present and future honey studies which will be helpful to the industry.

An Institute Service

It is an easy matter to sell bread to a starving man, but when the national stomach is comfortably filled only experts can crowd more food into it.

Honey is a concentrated food, usually classed along with sugar and starches as a carbohydrate. For years there has been a fear of obesity or over-plumpness, especially among women.

At the present time this dread is diminished, but this generation and the next will continue to follow the suggestions of the food faddists that the way to reduce weight is to refrain from eating sugars and starches. Honey consumption has to suffer along with all other energy foods, and the only way to impress upon lovers of sweets the fact that the sugar gathered by bees from flowering fields and blossoming orchards should be used to satisfy the craving for sweets is to organize the knowledge we have on the value of honey

in the diet and then to carry that knowledge to the consuming public.

Miss Fischer has recently spent some time in the East training a group of demonstrators so that when they tell the story of honey to the customers to whom they talk in the fancy and grocer stores where they are demonstrating, they will build good-will and establish an appetite demand for honey which will far outweigh the dread of over-plumpness.

American Honey Institute believes that trained demonstrators, who not only know the value of honey in nutrition but who are able to show how it can be used in new and interesting dishes, will be of great assistance in placing honey back on the American table. It is our desire to be of service to all dealers in honey in the development of well-equipped and well-trained demonstrators.

Honey in Wesson Oil Dressing

Wesson Oil ad covered the full back page of the Ladies' Home Journal for April, page 109 in Good Housekeeping, and was beautifully colored. In the third paragraph was "A little honey for a touch of sweetness." Honey as an ingredient in salad dressings makes them better, and we are glad to see that allied food companies are manifesting this fact by including honey in their advertising as the Institute is suggesting.

Quaker Oats People Will Use Honey Recipes

A letter from Mr. Lourie, of the advertising department of the Quaker Oats Company, addressed to the Institute, said: "Thank you so much for your suggestions for our Muffets advertising. With your permission, we would like to add the three recipes for honey muffet dishes which you have sent."

Requests for Feature Articles

The following persons have expressed a desire for honey copy to be prepared by the Institute and have specified the type of material they wish. Three popular magazines are edited by these household editors, and here is what they can use:

Ruth Axtell Chalmers, Modern Priscilla—Honey Tea and Afternoon Dainties. Honey Confections for the Holidays.

Mrs. Ida Migliario, the Household Magazine — Children Like Honey Combinations. Honey for the Picnic Lunch. ("Be very glad to have you prepare for me an exclusive story concerning these subjects and would be interested in photographs illustrating these articles.")

Mrs. Caroline King, the Country Gentleman — Honey Tea Dainties. Holiday Confections. (Wants exclusive material from Institute, not syndicated material.)

Bibliography

We are in receipt from Cornell University of a memoir upon the "Variation and Correlation in the Appendages of the Honeybee," by Dr. E. F. Phillips.

This work is too scientific for us to publish in extenso, but it is very interesting to peruse, and we judge that the author and his co-worker, D. B. Casteel, found great pleasure in all the studies and the measurements mentioned.

One of the principal studies consisted in microscopic investigation to ascertain the number of hooks in the wings of bees, to fasten the front and rear wings in flight. Great variation was found.

One might wish that some of the studies had been made upon the length of tongue, but most of the facts given in this connection are from the Russian scientists, who found, as we have already seen elsewhere, that the bees of southern Russia, and especially of the Caucasus regions, have the longest tongues, even longer than those of the bees of some parts of Italy.

The statement is made that the cell sizes of combs built on foundation are more regular than those of naturally built comb, a fact of which we were quite sure already.

The statement is confirmed that the drones of Italian bees, whether reared in America or in Italy, are not uniform in color, drones quite dark being often produced by queens of light-colored bees.

The tests of wing veins indicate to these scientists that there is a greater number of veins on the wings of those bees produced when there is greater warmth and greater abundance of food. They also find more variation in drones than in workers, or in queens.

Variations are mentioned as due to greater or lesser sizes of cells where the insects are reared, and they find that the number of veins in the wings depends in part upon the greater or less warmth and greater or less abundance of food in the hive at the time of rearing.

Variations in the weather and feeding conditions of the colony, as well as in the sizes of cells, therefore are of importance, as well as the influence of honey harvest conditions.

A. S. Mikhailov, of the Tula Experiment Station in Russia, is mentioned as reporting that a decrease in temperature from 35 to 30 degrees centigrade (95 to 86 F.), brought about by placing the developing brood in an incubator and changing the temperature, decreases the length of the proboscis and of the wings. He also states that bees hatched in new combs are larger

than those that emerge from old combs. This is a fact of which we were already aware.

The entire memoir shows a great deal of study and must have been enjoyable to write. It contains fifty-two pages, and quotations are made of thirty-three works of various students. Fifteen of those works are by Russian scientists. W. W. Alpatov, who spent several months in the United States, is one of the principal authors quoted.

Florida Floods

I have been up around Wewahitchka the past three days. The water from the recent floods was dropping so that an occasional ridge along the river would begin to show. The bridge over the arm of the Dead Lakes just as you approach Wewahitchka had nearly four feet of water on the driveway. At this point the river was spread out eight or ten miles wide and was twelve or thirteen feet above normal stage.

With the exception of two or three, all the apiary scaffolds were covered with from a few inches to several feet of water. It would be impossible to estimate the loss of field bees. From past experience, I would estimate that it would run as high as 50 per cent of the field force.

Only a few apiaries sustained losses from drowning of colonies. Mr. Jim Rish lost over 100 colonies and Mr. Joe Whitfield lost nearly 150 colonies and equipment by having temporary scaffold collapse. Mr. Whitfield also had forty barrels of tupelo honey at his apiary, which was submerged for several weeks. Most of the apiaries on the lower river were raised a few feet above their usual stands and saved from the flood. Indications are that the production of the territory will be materially affected by the loss of field bees and the flow coming earlier than usual.

J. L. Morgan,
Apalachicola, Florida.

The Hard Winter Just Passed

In every direction, in Europe, comments are made upon the hard winter, especially the months of February and March. The "Apicoltore Moderno," published in Turin, suggests that the North Pole was returning the visits paid to it by the modern explorers.

"Honey, How To Use It"

A special bulletin, No. 122, by Alice M. Child and Agnes Kolshorn, of the division of home economics, University of Minnesota. Well done, too. The recipes are most tempting. Address inquiries for copies as above.